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EDITORIAL CONTENTS

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FEATURE ARTICLES

Speaking of Regulation 9
The Better Truck Business Parade is on—Gains Show 10
Recovery Code Seen as Keys to Rid Industry of Evils 12
Doubles Tire Life by Keeping Stock in Cold Storage 15
Money-Saving Ideas Worked Out by Fleet Operators to Reduce Costs 16
What's the Economic Life of a Truck? 18
Operating Variables Cast Their Shadows on an Oil's Value 22
Control of Gas and Oil Tightens Up Costs of Laundry Fleet 23
Here Are the Formulas to Help You Engineer Transportation 27
It's Up to Mechanics to Prolong Ring Life 29
$alvage—From a Shop Man's Mail 37

NEW PRODUCT DESCRIPTIONS

Brockway's Trio of Models Has Five Forward Speeds 32
Federal Puts Out 3 New Models to Replace Seven 33
Fruehauf Presents Four New Developments 34
Hudson Uses Essex for Commercial Line 34
Marmon-Herrington Extends Range With 21 Model Line 35
Diamond T Tags 1½-Ton DeLuxe Job $595 36
Esco 2-Ton Model is Newcomer in Field 36

DEPARTMENTS

After Hours 14
Our Own Ear to the Ground Department 21
Court Decisions in Truck Cases 31
Post Scripts 38
News of the Industry 39
Commercial Car Journal Specifications 40
These Men Want Jobs 50
Advertisers' Index 62

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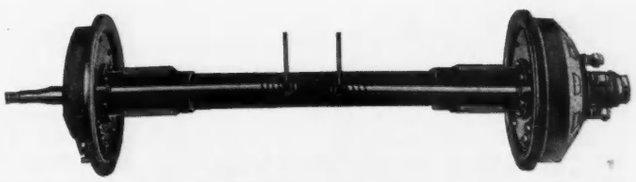

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BETTER OILS FROM THE GROUND UP!

SPEAKING OF REGULATION

BY

C. G. ANTHONY
President
Pacific Freight Lines, Inc.

Who asks "a fair field and no favor in which economic competition will decide the question of survival."

DURING the past several months many state and federal commissions have given much time and thought to the investigation and study of freight transportation conditions in the United States. These investigations have covered all phases of transportation.

The radical changes taking place in transportation and the very apparent unsettled, chaotic and distressed state in which transportation agencies find themselves as the result of changed and changing economic conditions make such surveys most opportune.

Carriers of all classes, according to the evidence collected, are finding it more and more difficult and, in many cases, impossible to make both ends meet. The present conditions under which the various transportation agencies are working are conceded by all to be intolerable. Some of these conditions result from causes within the industry itself, others because of economic reasons, complex in character and intricate in the extreme. Since transportation is a necessary constituent of all other businesses in the country, it suffers from not only its own ills but, by reflex or otherwise, from the varied ills of all other businesses. Transportation companies are interested in and affected by, and react in some manner to nearly every economic factor. To cover all phases of our transportation problems we must determine why industry as a whole slows down because of over production at a time when millions are suffering from under consumption, why at this time there is a deficiency of purchasing power. Why is it impossible for the people, as consumers, to acquire and enjoy all the commodities, which, as producers, they are willing and able to make? These are baffling questions as yet unanswered by the entire financial and industrial world. It is to be hoped that the answer to this phase of the transportation problem will be found as the "Administration Recovery Program" progresses. This far-reaching program of emergency legislation which has been completed by the Roosevelt Administration is designed to increase purchasing power, relieve unemployment and rehabilitate industry. If this program works out according to plan it will help to restore to the transportation carriers much of the declining tonnage—the result of depressed business. There are, however, other reasons to which their distress is due, which must be remedied before stability can return to the industry.

A careful study of the statistics collected at the various hearings shows conclusively that undermining influences were at work before the business depression began. The depression only augmented and culminated conditions that would of themselves in time have brought chaos to the industry. Disregarding general business conditions the outstanding factor contributing to the transportation chaos was the lack of uniform regulation. No industry can long survive unless all members are granted an equality of opportunity. The advent of new transportation agencies has brought about changed conditions which the law does not adequately cover. When transportation was a monopoly State and Federal regulation prevented discrimination between persons and places, rebates, inadequate service, enforced reasonable rates and prevented abuses. Now, we have all the evils which regulation is intended to correct in even more vicious form resulting from a condition of law subjecting some transportation agencies to rigid regulation, some to partial regulation, and some not regulated at all. On the one hand one class supervised and controlled as to service, schedules and rates and thus shackled compelled to compete in the field of free competition with carriers unregulated, obligated to no one, changing rates over night, always charging something less than the published tariffs of the regulated carriers, picking the attractive tonnage, all resulting in a ruinous and cut-throat competition creating a condition that carries within itself the seeds of inevitable collapse.

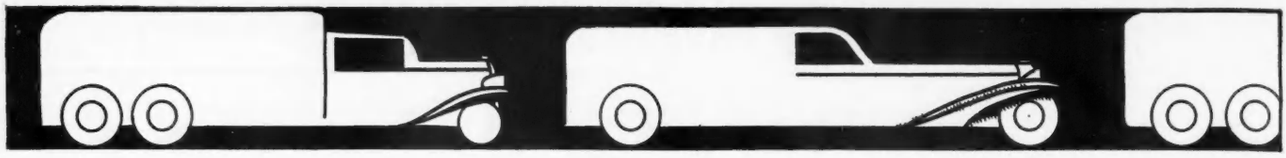
Hardly any business is more highly competitive than transportation, particularly on short haul traffic, say up to 300 miles. It is hard to cite a case of transportation monopoly yet transportation is clothed with the same public interest as of old. It must be regulated. The public is entitled to have competition or regulation but not both. So long as free competition reigns in an industry we can be sure that the public will get its product or service at a figure slightly above the cost of production. Regulation is an exercise of the public power toward the same end. Two or more carriers performing essentially the same service should have an equality of opportunity.

In the State of California as an example, there are three classes of for-hire truck operators:

1. Common Carriers (certificated) operating between fixed termini or over regular routes. In 1917, the Legislature passed a law vesting the Railroad Commission with jurisdiction over this class of carrier.
2. Common Carriers not operating between fixed termini or over

(TURN TO PAGE 32, PLEASE)

THE PRESIDENT'S PAGE



THE BETTER TRUCK BUSINESS PARADE IS ON, GAINS SHOW

Replacement market opens up and May and June make remarkable gains in sales and production over 1932

By GEORGE T. HOOK
Editor, Commercial Car Journal

HAPPY days are here again. In fact they arrived, according to the sweet statistics of the truck industry, some time in May when truck production and truck sales did a loop-the-loop, passed the minus sign that has beeen detouring the industry for lo these many months, and sailed right smack into a big plus sign which many folks thought was still miles away.

The industry first began to feel its oats in April when sales almost doubled those of March and came within sniffing distance of last April's total of 17,777. The friskiness carried over into May and when Memorial Day was reached the industry had dug a grave for its own depression, and buried the corpse with whoops and cheers. May not only exceeded the April sales shower by 21 per cent but passed May of 1932 by 12.3 per cent. This was the first time this trick, which was quite a habit in the old days, was turned since October, 1931.

This breaking of records proved to be just a workout because June came along and topped May by 9.5 per cent and June of last year by 29 per cent.

And from the latest reports from factories, this momentum is being carried over into July.

As we have admitted on previous occasions, we are not statistically-minded. But the statistics we have compiled below are just about the swellest bunch of figures we have seen off or on any stage. They reveal the inspiring upward curve instead of the depressing downward curve. The glad tidings are printed in boldface type. Table 1 shows domestic sales of 21,000 in May and 23,000 in June. These are estimates based upon

Table 1.—U. S. Domestic Sales

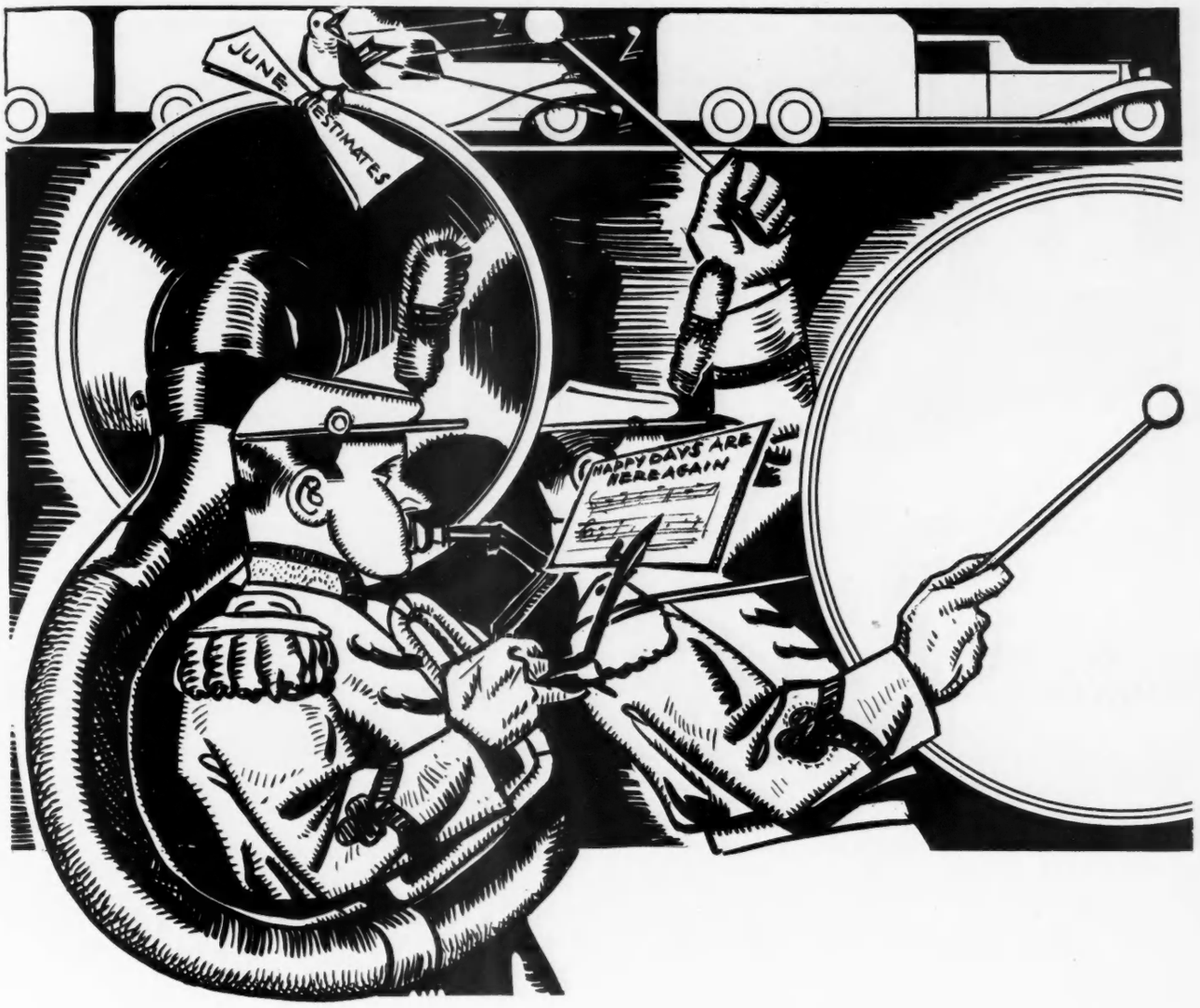
	1933	1932	% Decrease or Increase
January	11,713	14,767	—20.7
February	9,707	14,522	—33.1
March	9,929	16,759	—40.6
April	17,313	17,777	— 2.5
May	***21,000**	**18,688**	**+12.3**
June	***23,000**	**17,813**	**+29.1**
6 Mos.	*92,662	100,326	— 7.6

*Estimated.

Table 2.—U. S. Truck Production

	1933	1932	% Decrease or Increase
January	21,718	20,541	+ 5.7
February	15,333	23,308	—34.2
March	18,064	19,560	— .7
April	27,317	27,389	— .0
May	**33,539**	**26,539**	**+26.3**
June	***38,000**	**22,768**	**+67.6**
6 Mos.	***153,971**	**140,105**	**+ 9.9**

*Estimated.



confidential reports from truck factories.

Table 2 gives the vital statistics of truck production. They show that both May and June were the best production months since July of 1931. May production was 26.3 per cent better than May, 1932, and June was 67.6 per cent better than last June. The June figure is estimated on the basis of preliminary reports.

Not all truck companies are participating in the upswing. Those with skeleton sales organizations were in no position to take advantage of the changed attitude of truck buyers. This was acknowledged by the vice-president of one company who put it this way: "It will require more time to definitely take advantage of the increase in business than would otherwise be the case because the results of the depression have left a decided scar upon the resources not only of our company but of others also. But we are convinced that truck business has definitely started on an upward trend."

The sales manager of another company which has been planning for the turn of events, and which has profited from the planning, expressed his satisfaction with conditions in these words: "We are very optimistic over the future because our increased sales have not been due to any lucky fleet orders or any cut-price selling campaign. The increase has been widespread and through regular dealer channels, which convinces us that operators are replacing worn equipment and that business should continue in increasing volume."

Another factory sales manager was encouraged by the fact "that a great many firms and individuals who, during the past two or three years, have been talking about replacing old wornout equipment are now actually doing so."

"Truck deals now offered by customers," another executive wired us, "are better financed and more ably managed."

"Small-size truck business increasing," said the wire of a factory president.

There is enough variety in the above statements to convince any man now in the business of selling trucks that he has within his grasp an opportunity which, after two hectic years, has finally come out from around the corner.

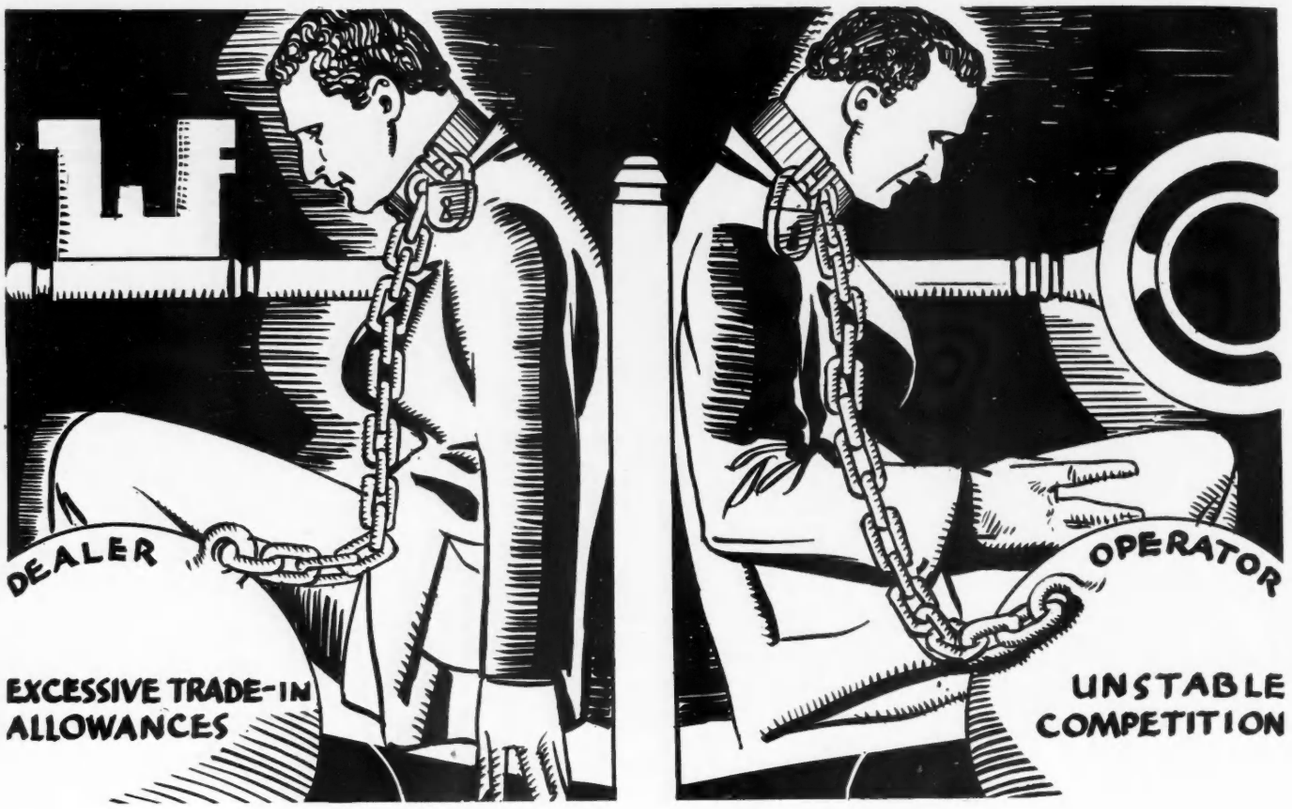
If small-size truck business is increasing it means that the one-truck buyer—the corner grocer, butcher, baker, etc.—is back in the market. He's the buyer upon whom volume depends. And if he's back in the market he's a sure sale for the best products at the lowest prices in the truck industry's history.

If trucks can be sold in record-breaking quantities without "cut-price selling campaign" and are better financed it means that at last the salesman and the dealer can make a sale with restored confidence that satisfactory profits can be made all around.

And if those who have been talking about replacement are now replacing, it means that the long-awaited opportunity is at hand. It means that every dealer, salesman and sales executive in the industry has this huge truck replacement market to pick on:

700,795 vehicles more than seven years old.

1,809,314 vehicles more than five years old.



Recovery Codes Seen as Keys to Rid Industry of Evils

•

Trade group aims at curbing over-allowances; operators form national group and begin work on a code

THE various branches of the truck industry—the trade, the operators and the manufacturers—know now that it's easy for President Roosevelt to ask for industrial recovery codes but it's tough as the devil on those who have to frame them. Much patience, sweaty labor and mental energy have already been expended by the industry's elements but the net result is simply—Progress. No codes have been submitted to the National Recovery Administration by either dealers, operators or makers. In fact only the dealers, represented by the National Automobile Dealers Association, have progressed so far as to announce a tentative code.

The N.A.D.A. aims to bring all automotive dealers of the United States under the provisions of the Industrial Recovery Act through its leadership. The basic code it prepared includes wages, hours of labor and trade practices in respect to used-vehicle allowances.

Briefly the dealer code provides for the formulation of labor codes by districts; agrees, with the approval of the President, to increase immediately all wages or salaries now on an hourly or weekly piece work rate 5 per cent, and to reduce working hours, except those of salesmen and executives, to 40 hours a week. It provides that proprietors will seek quickly to increase wages to 1926 levels and will not take more than 5 per cent net profit until wages are so increased.

In consideration of the public interest, the code proposes that the retailing industry will regulate itself by fixing allowances on used vehicles to yield the dealer 20 per cent gross on his used-car volume. This section of the tentative code reads as follows:

"To prevent sales below cost, heretofore due to unfair competition, that has

resulted in the dissipation of the large part of the capital originally in this industry, and annual losses estimated now at the rate of $50,000,000, it is agreed that the automobile retailing industry will regulate itself by fixing allowances on used cars, by first giving consideration to the public interest on the principle that a used-car allowance for all models be set at the average price such cars are marketed for in any given district or locality less 20 per cent for overhead and selling expense, less cost of reconditioning necessary to put the vehicle in average running condition. Such a price to be revised from time to time in accord with market conditions and increased price of new cars. Such price to be agreed upon by the majority of each component association or preferably by each district. Such allowance schedules as approved by the component association then will be filed by each Executive Committee with the District Advisory Committee, which will attempt to simplify them and make them uniform. Then the District Committee approves and files with the Emergency National Committee for further refinement and simplification if desirable, before presenting to the Government."

The proposed code makes no marketing recommendations on such matters as closing on Sundays, Saturdays and holidays, parts discounts, credit regulation, fraudulent or deceptive practices, price cutting, commercial bribery, etc., but advises each local group to make its own recommendations on these points, final decision to rest with the Emergency National Committee and, of course, the Government.

Under the N.A.D.A.'s organization and administrative plan the Emergency National Committee would consist of 25 members, one from each district which the code sets up. This committee would appoint a National Control Committee of one. In each district the code would be administered by a District Advisory Committee consisting of the N.A.D.A. director from that district and one representative from each dealer association in the district. Each of the dealer associations in a district will appoint its own Local Advisory Committee.

The Emergency National Committee, with a membership selected by the District Advisory Committees, is to be the general planning, administrative and coordinating agency. It will delegate authority to the National Control Committee of one which will function in an executive capacity and provide contact with the Government.

No mention is made in the code of such questions of factory-dealer relationships as fleet discounts, regulation of production, clean-ups, etc., because such matters call for joint action with the manufacturer, and the present code confines itself "only to those things which are under dealer control." The N.A.D.A. bulletin containing the code states that "when the manufacturers, as a group, have decided to submit a code, the N.A.D.A. will confer with them and submit such points of interest to dealers in which both are concerned."

The tentative code is now under consideration in the 25 N.A.D.A. districts.

The code applying to the manufacturing end of the automotive industry is being considered by a National Automobile Chamber of Commerce Committee composed of Donaldson Brown, General Motors; Robert C. Graham, Graham-Paige; B. E. Hutchinson, Chrysler; A. E. McKinstery, International Harvester, and H. L. Moekle, Ford. This committee has not yet made a report.

The problems of code-making which confront motor truck operators are, if such a thing is possible, even more exacting than those facing dealers and manufacturers. Motor truck transportation is not mentioned specifically in the Industrial Recovery Act but it is the judgment of high Government officials charged with administering the act that trucks come under its provisions.

While no regulations have been formulated, it is being assumed that all trucks operated by private individuals as a part of a business will come under the code of that business. In other words, if a retailer has a truck or trucks, the pay, working hours, etc., of the drivers would be regulated according to the code submitted by the retailer's industry.

This interpretation leaves the for-hire operators to shift for themselves. They have lost no time in doing this. To begin with they have no nationally representative association. Their first problem is to form such a body. Efforts in this direction were made at two meetings held in Chicago. The first meeting was held the week-end of June 24 with representatives of some 30 state motor truck associations present. Lacking the authority to effect any national organization, this meeting came to the conclusion that the question of whether or not a national federation should be organized should be decided by a vote of the memberships of state and local trucking groups. The resolution to this effect provided that each group favoring a federation should send two delegates to an organization meeting, one of these delegates to be a representative of the haul-for-hire group of each association with authority to vote on any code proposed.

The organization meeting was held July 11. After a heated, day-long session a compromise agreement was reached between the American Highway Freight Association and the Truck Executives Association of America. These two organizations, representative of the trucking business, agreed to reorganize the American Highway Freight Association to make it representative of the for-hire motor freight group in the drafting of a code under the Recovery Act.

A committee put the sentiment of the association in the form of a resolution after efforts to agree had failed on the floor.

The resolution provided that the American Highway Freight Association limit its membership to for-hire operator members of local and state associations; that present officers of the association continue in office, but that each state hold an election between August 1 and August 15 to choose a new director who must be a for-hire operator.

No code was submitted at the second meeting, but work on it is going forward. When finished the code will be submitted to the new directorate.

The Standing of Codes

THE tentative code being considered by the National Automobile Dealers Association as representative of all automotive retailing interests provides:

1. Immediate 5 per cent increase in wages and salaries of all automobile dealer employees.

2. Maximum work week of 40 hours for all except salesmen and executives.

3. Control of used-car allowances, based on average allowance prices set locally, to yield the dealer 20 per cent gross on his used-car volume.

For-hire truck operators and vehicle manufacturers have not yet formulated codes under the National Industrial Recovery Act.

AFTER HOURS

We Told You So

FAITHFUL readers—meaning those who take the time to read this page—will recall our statement that the choice of Interstate Commerce Commissioner Eastman as Federal coordinator of railroads was a particularly happy one for the truck industry. We said he was a liberal, that on occasions he has not hesitated to hurl custard pies at the railroads, and that he could be relied on to see to it that in coordinating the railroads into profit-makers the motor freight industry would not be coordinated into a total loss.

No sooner was our prediction in the hands of faithful readers all over the world than Mr. Eastman began justifying our belief in him. Right off he announced the appointment of J. R. Turney, vice-president of the St. Louis Southwestern Railway Lines, as his right-hand man to take charge of the freight service coordination inquiry. And then he ranneth our cup over by naming William H. Chandler as eastern traffic assistant.

If you don't know these men and are unfamiliar with their active pasts the public announcements of their appointment contained no signifiance. These assistants of Mr. Eastman's, you should know, disagree with the railroad idea that the only burdens a truck is fit to carry are taxes and restrictions. They have criticized railroads and railroad management publicly and in print.

A Memorable Day

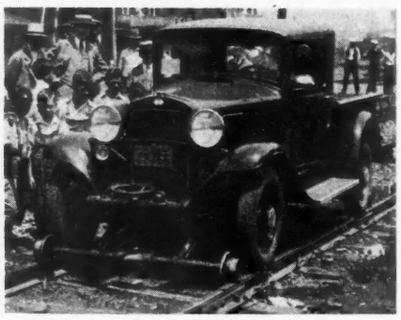
ON October 28, 1931, in Tulsa, Okla., you could have heard a pin drop when Mr. Turney finished telling the Associated Traffic Clubs of America that "the motor truck is a *threat* and an *opportunity*." And we would have given much more than a penny for Mr. Turney's real thoughts when later a railroad magnate with the traditional heavy watch chain festooning his traditional paunch, approached him and, in the traditional manner, asked him in effect if his motherly superiors know he was out saying such things about the railroads.

A few brief quotations from Mr. Turney's memorable address, which Mr. Eastman evidently remembered, will serve to show what he thinks of motor trucks. Mr. Turney began his address by saying, "To railroad men, Heaven is a place where there are no motor trucks, and a future Hell holds no fears. For the first time in its history, the railroad faces a competitor who challenges its supremacy." Right here the silence became as heavy as a London fog and held throughout the speech, which contained such liberal remarks as these:

"Any attempt by the railroads to use this public sentiment (*against trucks*—Ed.) as cover under which artificially to perpetuate obsolete facilities and practices will in time most severely react upon themselves."

"Fifty years during which competitor after competitor has successfully invaded our merchandise traffic ought to make us suspect that something is wrong with that service. The irony of the situation is that three of these competitors (*railway express, parcel post and freight forwarders and consolidators*) use our own facilities to give a better service than we give. The trucks themselves are beginning to awake to the fact that they can do the same thing. The fault, therefore, lies not in the railroad facilities but in our own failure to use them more intelligently."

And much more of the same, which we'll gladly print in the August issue if a single reader declares he'd like to have us do it. Suffice to say that Mr. Turney advocates the use of motor trucks by the railroads to provide store-door delivery, to provide service where traffic is not sufficient to justify train movements, and to reduce terminal expenses.



The Pennsy, Frank Fageol and International Harvester collaborated in achieving this latest bid of the motor truck for railroad favor. It's for inspection and track-repair work. The vehicle is ambi-transient; it can rip over rails and ramble over roads. Pennsy maintenance officials like it.

Mr. Chandler's Chant

MR. CHANDLER summarized his views in an article published in this Journal in March, 1931. It was entitled "A Shippers' Spokesman Whistles a Warning to Railroads."

Mr. Chandler has for many years been traffic manager of the Merchants Association of New York. He knows his traffic onions, bunions and railroad boloney.

In the C. C. J. article he declared that "it's time the railroads *did* something to reduce costs for the shippers." The highlights of his statements were: Railroads should stop complaining, stop their propaganda, stop their misrepresentations and direct their efforts toward a solution of modern shipping needs. Perhaps the answer is store-door delivery, truck-co-ordinated rail operation and joint rates, but on a wholesome and not cut-throat basis. Truckers and shippers will not, can not be sacrificed.

In view of all of which we believe we were safe in saying that Mr. Eastman, in giving transportation a new deal, may be relied on to give truck transportation a square one.

Codes and Hopes

THERE are many in the truck trade and truck-operating groups of the industry who are hoping that such codes as are framed for these groups under the Industrial Recovery Act will not stop at satisfying the primary purposes of the Act, i. e., paving the way for increased employment and living wages.

They are hoping, and it's a blameless hope, that the codes will contain something to wipe out the evils that crept into the industry before and during the depression. The trade, for instance, is hoping that something will be done about used-car allowances. Operators are hoping for something that will bring about competitive stability.

It will be interesting to see how these hopes will be respected by the Government. On the one hand, the Government does not favor any price-fixing policies, and on the other hand it is not likely to permit a code to be a free ticket to monopoly.

Operators may be sure their code will be carefully scanned. It should contain nothing that could be construed as giving the big an advantage over the small, and certainly should contain nothing that would impair in any way the competitive situation existing between highway transportation and other transportation agencies.

In short, selfishness should be avoided, and self-protection promoted.

Doubles Tire Life By Keeping Stock In Cold Storage

By H. L. HASTIE, DELIVERY FOREMAN
Colorado Ice and Cold Storage Co., Denver

Other ideas for controlling tire costs of Denver fleet contribute to 50% slash in delivery department's costs

Mr. Hastie, the author, in the act of strong-arming a tire change

CAREFUL management is doubtless the general reason why we have been able to reduce expenses in the delivery department by upwards of 50 per cent. An appreciable part of this reduction was made possible by the careful attention we gave to the control of tire costs.

Our tire cost control system covers a number of ideas which are decidedly uncommon and others which are simply overlooked by most fleet operators.

For one thing, the life of tires not in regular use has been practically doubled by keeping them in the cold storage plant. Here, the rubber has no chance to deteriorate. This plan has enabled us to take advantage of numerour large quantity offers—thereby reducing the average purchase price of this equipment by approximately 25 per cent. In addition to a complete stock of spares for regular use, which is kept in the garage proper, we carry on an average of 50 new tires in cold storage. There are 39 trucks in our fleet.

We made a 20 per cent reduction in rubber maintenance expense by the use of over-size tires. A heavy load will cause blowouts in tires which are but slightly worn if they are only a little under-size. On models where we formerly used 32 x 4½ in., we now run 33 x 5 in. The number of blowouts was practically cut in half by this change. The use of a larger casing has also resulted in longer life for the entire tire. With a small tire, driving but a few feet after it goes flat will cause cutting. Not so with a large size.

Another highly profitable feature of our fleet operation is the tire service system. No truck carries a spare. If a tire goes flat, the driver telephones the garage and an attendant is sent out with a heavy-duty jack and a mounted spare. We estimate that this plan has reduced repair costs about 15 per cent.

The plan of repairing tires directly from the garage has several advantages. In the first place, a loaded truck is difficult to raise without a large jack, and in the second place changing a truck tire almost invariably gets a truck driver out of sorts. He soils his hands and uniform and is likely to be grouchy for the rest of the day. In addition, a spare tire is unsightly and difficult to take off and put on. If it is placed on top of the cab it detracts from the good appearance of the truck, and if it is under the body it gets muddy and greasy and is not easily accessible. On the side, it covers up valuable advertising.

The 15 per cent saving is figured to a large extent on the basis of better repair work. When the drivers have to change their own tires, they often run on a flat or low tire to a filling station, which naturally does a lot of damage. Under the present method, there is no reason for doing that. Furthermore, the repair-truck man does a better job because he knows his business. Before we often had cases where we had to do the work all over when the car got to the garage. Often, bolts were broken, rims were damaged or other damage was found.

Because of the excellent care given tires, we have run four Ford trucks for 3½ years without ever having a puncture on any of them.

We find that one of the most important things in getting the maximum life out of any casing is to keep the interior in good repair. The average life of our rubber is three years as compared with the one-year average of many firms. The principal reason is that we use more boots. I think, than any other fleet operator in this region. It is cheaper and more practical to use a boot for a small inside cut than to have it vulcanized. A boot costs only 35 to 50 cents whereas the average vulcanizing job will amount to two dollars or over.

Each time a tire is punctured we inspect every inch of the interior surface for cuts. The tiniest cut is immediately covered with a boot. By following this practice we are often able to use tires for a year or more which to outward appearances are "shot." The whole secret lies in getting a cut while it is small.

MONEY-FLEET

A standard lot of tools and materials for trouble calls is carried on a ½-ton commercial chassis instead of a truck

How Utility Fleet Saves $12,000 a Yr.

By J. M. ORR

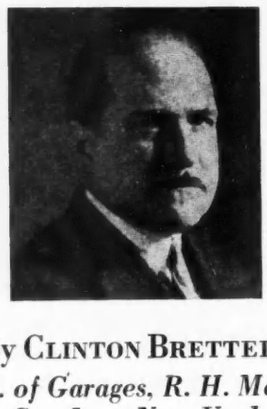
General Manager, Equitable Auto Co., Pittsburgh, Pa.

THE use of ½-ton trouble trucks developed for the Duquesne Light Company in place of the ¾-ton jobs formerly used has resulted in savings of $12,000 per year for the last three or four years.

The work was formerly done with ¾ ton ordinary canopy top express trucks with screened sides with tools and materials of various sorts carried in large wooden boxes to meet the needs of each operating district. Under our sponsorship a standard lot of tools and materials was developed for this work in all districts and a special small box developed, which could be mounted and operated on a ½-ton commercial chassis.

Our vehicle service to our operating companies is billed on a rate schedule. The figure of $12,000 was obtained by application of actual mileage developed at our rates for each type of truck. For the year 1932, seventeen trucks developed 331,000 miles and the actual savings indicated was $10,444. In addition to this group, we have several other similar applications with bodies of the same type changed to meet special requirements that give us the $12,000 without any question.

A Hand Brake Test That Spares Truck



By CLINTON BRETTELL

Supt. of Garages, R. H. Macy & Co., Inc., New York

EACH car in our fleet is tested three times a month for brake conditions but we have discontinued the maximum deceleration road test of the emergency brake. We found that such a test caused such an excessive amount of maintenance, both as to the brake itself, to the mechanism between the brake and the rear wheels, and to the tires, as to be prohibitive, and not justified by any commensurate benefits obtained.

We felt that we were compelled to make the test in order to be sure that the hand brake would come within requirements specified by the legal authorities, but after actually experiencing this excessive maintenance, we were compelled to very materially modify this drastic test.

It now seems likely that an acceptable method will be to check the emergency brake by means of a static test, to determine whether it will hold the vehicle on a grade that would be the equivalent of the legal stopping distance as specified. Holding on a 36 per cent grade would equal our legal stopping distance. This test would, of course, be augmented by inspection of brake linkage, lever positions, ratchet and pawl, etc., and should give ample protection.

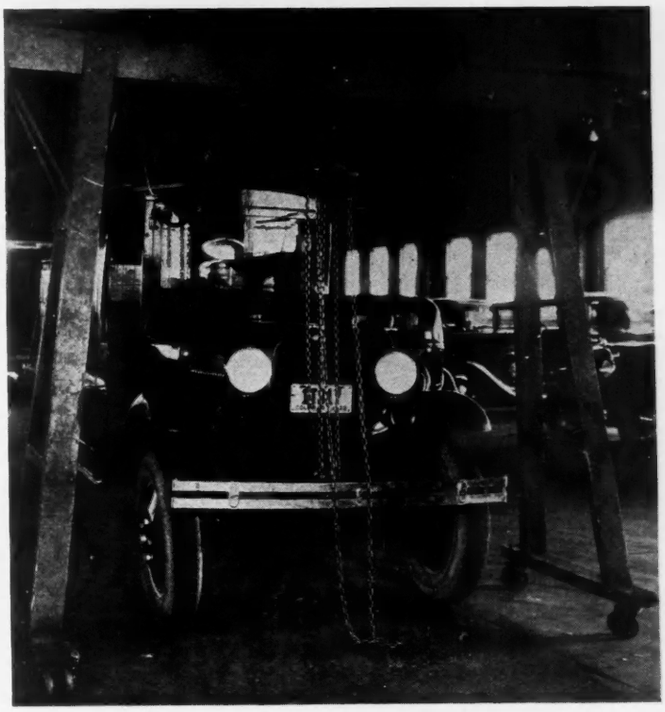
A Shop Pet That Cuts Petty Thefts

A trained watch dog is saving money for a large fleet shop in Philadelphia. He discourages petty theft of tools and small parts while mechanics are outside the building for lunch as well as preventing purloining of material from the shop yard. He is credited with warning the night watchman of a fire just outside the building. In fact, the fleet manager considers the dog—a pedigreed animal, not a street car—a good investment.

Saving Ideas Worked Out by Operators to Reduce Costs

FOUR alert fleet managers tell here how they found ways to save money in the operation and maintenance of fleets in their charge. The total savings run into thousands of dollars per year.

Believing that an exchange of similar ideas will be mutually helpful to fleet men in times of depression or prosperity, Commercial Car Journal will be glad to hear from those who have succeeded in cutting costs. Write informally, if you prefer, but please include in the facts the number of vehicles in your fleet and, if possible, the amount of savings in dollars and cents.—The Editor.



This shop rack is carried to the scene of accidents to serve as a wrecker

Governors Halve a Fleet's Brake Cost

By Jean Babin

Shop Superintendent, Hill Bread Co., Newark, N. J.

INSTALLING governors on our fleet saved one-half the cost of brakes. Before we put on governors brakes were a headache. Drivers used to hang around lunch cars and then drive hard to make up the time.

We govern Ford 1½-ton jobs at 30 m.p.h., light deliveries at 35 m.p.h., Graham trucks at 30 or 35.

Governors also save wear and tear on engines as well as brakes. One Ford truck, without a governor, which ran 25,000 miles required relining of brakes at 10,000 miles and of two of the brakes at 15,000 miles. After the 25,000 miles of operation we had to work on the engine, taking the head off and the oil pan down. Another truck equipped with a governor ran 50,000 miles without a brake job or taking the head off or oil pan down.

Hundreds Saved by Portable Skyhook

By H. L. Hastie

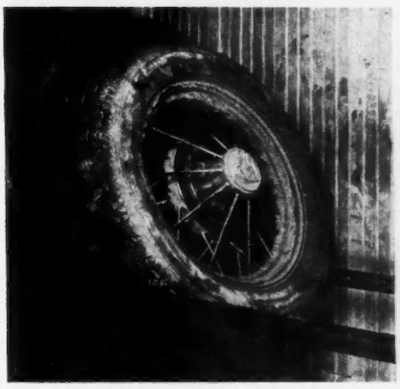
Delivery Foreman, Colorado Ice & Cold Storage Co., Denver, Colo.

A PORTABLE pulley rack which is very useful in the garage and also can be loaded on a truck and used for a wrecker saves us several hundred dollars per year.

The rack is mounted on small wheels and will straddle every car in our fleet. It has been used on several occasions to pull wrecked trucks from ditches as much as 20 feet deep. Six men are required to operate it as a wrecker. Drivers who are off duty do this work without extra charge for overtime.

Constructed of wood, the rack is 9 ft. high and 10 ft. long. The top beam, 8 in. deep, carries a hook for the pulley.

A rack made of old pipe accommodates the stock of mounted spare tires and saves work in handling them. The rack is 8 ft. high and has two levels, the larger tires on the lower shelf, the smaller tires on top. The rack tapers toward the top, the second level having overall width of a little less than 3 ft.



Mounted spare tires are stored and handled with minimum effort on a two level rack made of salvaged pipe. Large sizes are on the lower shelf, smaller tires on top.

WHAT'S LIFE

By T. C. SMITH

Engineer of Motor Vehicle and Construction Apparatus, American Telephone & Telegraph Co.

THE article by Mr. W. T. Collins with regard to the proper replacement period for motor vehicles, which was published in the May number of the COMMERCIAL CAR JOURNAL, is very interesting indeed. I have tried to analyze the method suggested with a view to determining just what would be involved in making a practical application of it. Before commenting on the method, however, I wish to express my appreciation for the work which Mr. Collins has done and to emphasize the importance of giving more consideration to the matter of determining the economic retirement period for motor vehicles upon a factual basis rather than by the usual "hunch" method.

It seems reasonable to eliminate the oil, gas and tires from the consideration, as suggested by Mr. Collins. The tire expense is practically proportional to mileage, the gas expense ordinarily increases slightly with mileage and the oil expense may increase very greatly with the age of the vehicle. However, the oil total cost is a small part of the total expense so that this does not become a vital factor.

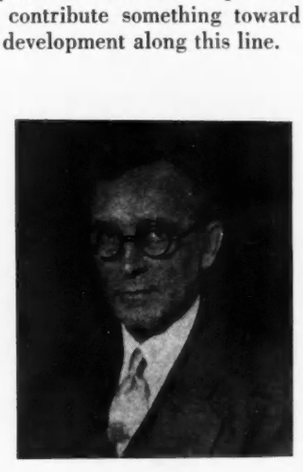
An important item omitted from the consideration is that of the trade-in value of the old vehicle. This value is high enough in some instances to permit trading in cars upon a one-year basis. The variation in trade-in value is more a function of age than of the mileage which the car has traveled so that this factor would not combine with the curve built on the mileage basis, as given in the article. The consideration of the trade-in value of the equipment becomes less important in operations where the annual mileage is low so that a model is obsolete before the vehicle has run a sufficient mileage to be worn out. Between these two extremes in trade-in value at a given mileage there is a broad spread and particularly the first mentioned case involves so much money that it must be taken into consideration before a rational retirement period can be determined.

Further than this there is always a penalty upon a change to a new vehicle in the matter of transferring or refitting body equipment to the new chassis if it is a truck or bus, and in many cases there is also involved the more expensive operation of either purchasing new winch, power take-off and other power equipment, or transferring the old equipment to the new truck.

There are many cases where a truck chassis can properly be repaired and run longer than would ordinarily be the case, because of the fact that the body and power equipment are not worn out and yet they are not sufficiently good to warrant their transfer to a new chassis.

Another fundamental consideration with reference to Chart 1 in Mr. Collins' paper has to do with the initial investment component curve. Let us assume that a vehicle is a few years old. It is certainly improper to base an opinion as to the proper retirement period of that vehicle upon the first cost of the old equipment. The money has been spent and the decision in spending it cannot be changed. The question involved at any particular time is whether the vehicle can be disposed of at a high enough price and new equipment having as good or better performance characteristics purchased at a low enough price to make it more economical to install the new equipment than to continue with the old, at the same time considering the change in maintenance as well as body and power equipment.

The above mentioned considerations are presented with the hope that they may contribute something toward further development along this line.



By R. W. KNOWLES

Transportation Engineer The White Co.

"WHEN Total Cost Per Mile Ceases to Drop, Replace the Truck," by Mr. W. T. Collins, in the May number of your journal, presents an interesting, but not new, treatment of this subject.

If a truck or group of trucks is to be considered merely as so much mechan-

THE ECONOMIC OF A TRUCK?

● *Six well-known fleet men and transportation engineers here give their views on this important subject. These views are part of the discussion of the article, "When Total Cost Per Mile Ceases to Drop, Replace the Truck," by W. T. Collins, assistant economist, R. H. Macy & Co., New York, published in the May issue.*

Views of other fleet and factory men will be published in the August and September issues. Considered as a whole, these opinions constitute the most interesting discussion of the truck replacement subject published to date because they reveal the many, varied factors involved which tend to complicate the working out of a universally acceptable solution.

Mr. Collins has promised to elaborate his contentions in the August number.

By E. W. JAHN

Superintendent Transportation Department, Consolidated Gas Electric Light and Power Co. of Baltimore

ical equipment, the depreciation *rate* can be determined by the *method* which Mr. Collins has advocated, i.e., take the amount of money represented by the truck's first cost, subtract what it may be "turned in" or scrapped for, then add the total dollars spent for repair parts and labor. Divide this sum by the actual miles run and charge depreciation based on the time—or miles—when the result reaches a minimum-per-mile, and starts to increase.

However, the ability of a high grade truck to stay on the road more days and more hours per year — to regularly cover more miles per day, etc. — to handle per day a greater number of packages, tons, gallons, etc., due either to superior load capacities, or because less driver effort is needed, may make such a truck of more real value to an owner than would be indicated by the cost-per-mile (repairs plus depreciation) as discussed by Mr. Collins.

Using Mr. Collins' Chart 4, the dollars and cents relation (for a single truck) would be the best when that truck had covered 49,000 miles, provided a straight line is used for the maintenance component—that is, all depreciation should be provided for in 49,000 miles.

Chart A is a copy of Mr. Collins' Chart 4, to which we have added a third curve—dotted line—which is the sum of his two curves. The bottom—minimum cost part—of this dotted curve is at 49,000 miles.

However, White truck operators who keep definite records, extending from the date of purchase over a long period of time, find that the repair component *does not* increase in a straight line, but after reaching a certain figure, the "cumulative cost per mile" either *does not* increase at all, or else it shows an extremely gradual rise.

The other chart (Chart B) shows a similar form of depreciation-per-mile curve of some (larger size) White trucks which ran 120,000 miles and the corresponding repair rate, with a third curve (dotted) which is the *sum* of the other two curves. It will be noted that, on the dotted curve the minimum figure has not been reached at 120,000 miles, and there is no indication of it being reached up to 200,000 or more miles, i.e. rate of increase of the repair component is far less than the rate of decrease of the depreciation component. Hence, the White truck user is justified in charging depreciation, based on a useful and economic life of at least 250,000 miles.

BASED on the figures shown by Mr. Collins, I believe that his line of reasoning is logical and correct. It has been our experience, however, in our fleet of approximately 350 cars and 150 trucks that the accumulative maintenance per mile on any individual unit or

Chart A

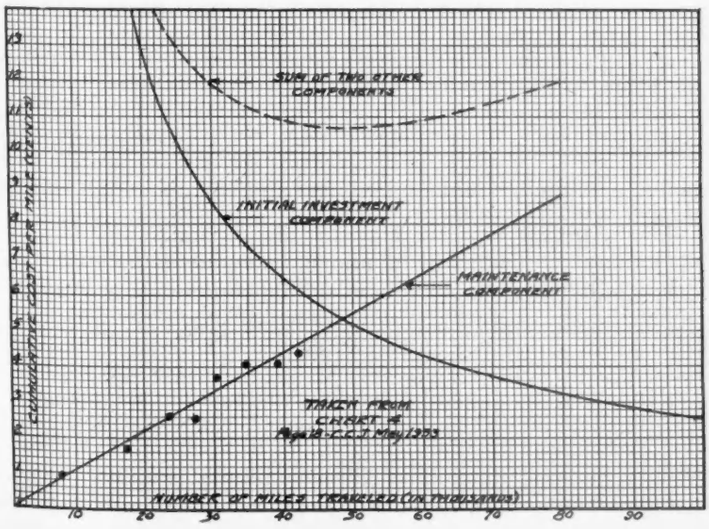
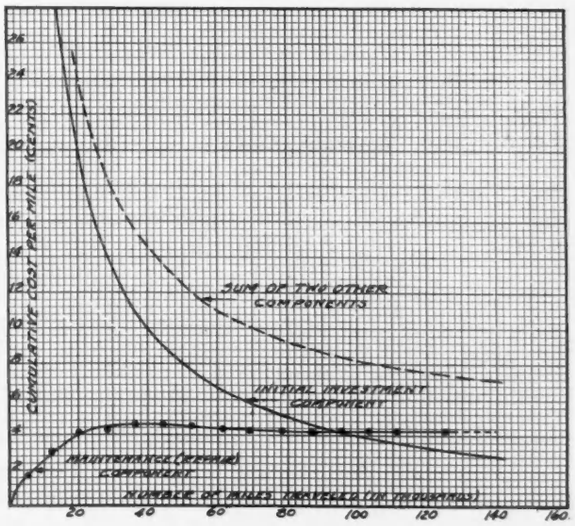

SUM OF THE OTHER COMPONENTS
INITIAL INVESTMENT COMPONENT
MAINTENANCE COMPONENT
TRACK FROM CHART 4 Page 18 C.C.J. May 1933
NUMBER OF MILES TRAVELLED (IN THOUSANDS)

Chart B


SUM OF THE OTHER COMPONENTS
INITIAL INVESTMENT COMPONENT
MAINTENANCE (ACTUAL) COMPONENT
NUMBER OF MILES TRAVELLED (IN THOUSANDS)

group of units seldom approaches as near a straight line as has apparently been Mr. Collins' experience.

Also, as I see it, for a system as suggested by Mr. Collins to be successful, it would be necessary to maintain a curve on each vehicle. In a sizeable fleet this would be a large assignment.

We also work on a basis which considers only depreciation and maintenance. Instead of maintaining a curve on each unit, we consider every major repair job after a unit has reached approximately 25,000 miles. When the question as to "overhaul" or "replace" arises, we calculate the summation of the maintenance and depreciation cost per mile for the life of the unit. We then estimate the mileage which can be expected from the "overhaul." For this mileage we then calculate the repair cost (overhaul plus regular minor repairs) and the depreciation per mile. This figure is compared with the cost per mile for the life of the unit. If the cost per mile is the same or less for the estimated life of the "overhaul," the work is done and the vehicle kept in service. If the cost per mile is higher, the unit is usually replaced.

A sample of how this system applies is attached. Both of these cases are for the same car at different periods in its life. In Figure 1 the car was retained, in Figure 2 the car was replaced.

Figure 1

Veh. No. 458 Date: 9/1/32
Total Mileage: 21,749
Purchase Price $857.13
Est. Allowance 225.00

		Per Mile
Depreciation	$632.13	$.029
Accumulated Repair Cost	369.73	.017
Total	$1,001.86	$.046

* * *

Estimated cost of overhauling	$100.00
Est. mileage life of overhaul	5,000
Est. minor repair cost to obtain 5,000 miles at $.017 per mile	$85.00
Total maintenance for 5,000 miles	$185.00
Est. depreciation for 5,000 miles	$25.00
Total cost for period	$210.00
Total cost per mile	$.042

Overhaul ——— x 9/2/32 Abandon ———

Figure 2

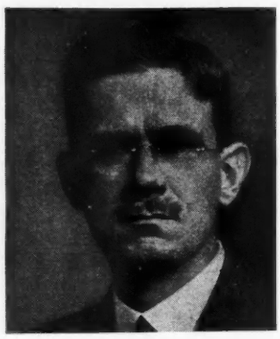
Veh. No. 458 Date: 12/29/32
Total Mileage: 28,071
Purchase Price $857.13
Est. Allowance 200.00

		Per Mile
Depreciation	$657.12	$.030
Accumulated Repair Cost	533.35	.019
Total	$1,190.48	$.049

* * *

Estimated cost of overhauling	$150.75
Est. mileage life of overhaul	5,000
Est. minor repair cost to obtain 5,000 miles at $.019 per mile	$95.00
Total maintenance for 5,000 miles	$245.75
Est. depreciation for 5,000 miles	$25.00
Total cost for period	$270.75
Total cost per mile	$.054

Overhaul———Abandon———x 12/30/32



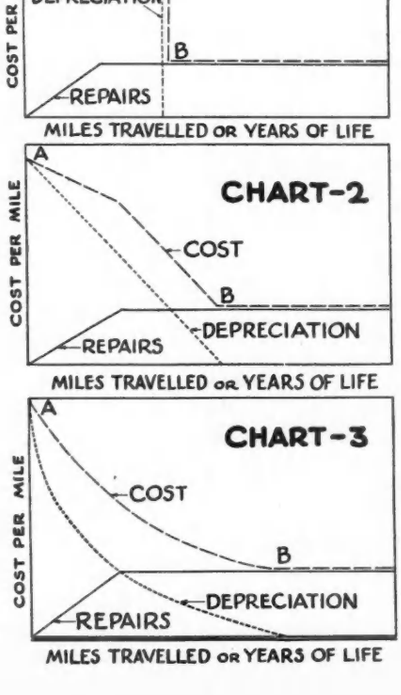
By J. G. Moxey

Transportation Engineer
Sun Oil Co.

TRUCK replacements are normally made in the fleet for one of three reasons:

First: Obsolescence—that is, inability to further procure replacement parts, due to the failure of manufacturer to manufacture same. Careful purchasing of proper equipment can reduce this to practically zero.

Second: Inability of the machines to further perform satisfactorily. This is brought about in the fleet primarily by change of type of transportation, for example, hauling larger loads at higher speeds over larger working areas, retiring, of necessity, small, slow equipment. This is the progress of present transportation and is obsoleting many trucks. Should the fleet, however, be flexible enough to permit transfer of equipment, keeping trucks of the type desired at the place intended where they can economically perform, would tend to minimize this case. But, unfortunately, with the more recent trend, that is, the last four or five years of transportation, this of necessity cannot be avoided and has primarily been brought about by more advanced type of road construction and large construction programs on the part of state departments.



Third: Economic retirement due to high cost of trucks of one manufacturer against a truck of another manufacturer, both machines being applied to the same type of transportation. This seldom occurs where due care is given to purchases of new equipment and only the best and therefore the most economic type assured.

The operating cost of any vehicle is made up primarily of two main items; repair and depreciation and as Mr. Collins rightly put it, this should be watched carefully, and although Mr. Collins states that "when the total cost per mile ceases to drop, the truck should be replaced," he refers to an accumulative cost per mile, plus "initial investment component," which is analogous to depreciation item.

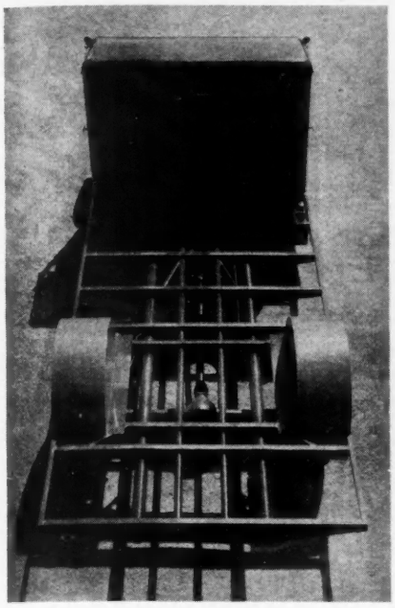
Mr. Collins uses his maintenance component as a gradual ascending line and after he has plotted his total cost, his initial investment component plus maintenance component, I am afraid the differential in any one period of time, let us say a year, would be so small, by throwing in a new truck and therefore raising the cost of operation on new machine against an old machine would not only give no return on original investment but would give a negative result.

In order to clarify this, I have prepared charts No. 1, No. 2 and No. 3. In each case repair cost per mile is shown as an ascending line for about the first 2½ to 3 years after which it flattens out to a dead horizontal line; if it ascends at all it will be very slight. Against this I have plotted three methods of depreciation in chart No. 1, flat rate of depreciation per year for a period of, let us say, 4 to 5 years. Chart No. 2 rate of depreciation from maximum to minimum on a straight line basis, and chart No. 3 rate of depreciation on a sliding scale basis, representing probably the true type of depreciation which, for each year, represents the difference between the initial investment and the salvage value of the machine.

In each of the three charts I have shown the accumulative total of the repairs and depreciation from which it will be seen that at no period during the life of the machine shown, it would be economical to retire same and put in its place a new machine, starting back again at point "A" after having reached point "B" on the component cost curve.

Although I agree with Mr. Collins'

(Turn to page 50, please)



This is the new truck with new ideas in design which you'll know a bit more about if you'll refer to the item on this page headed "New Ideas in a Truck."

OUR OWN EAR-TO-THE-GROUND DEPARTMENT

Wipers to the Rescue

The Lunsford Mfg. Co., Chicago, Ill., did not tarry long after reading in this department last month that a group of fleet operators in the snow-belt decided that their greatest need was a device to prevent sleet from forming on windshield and side-windows. "Give us their names," a letter requested. "We are not permitted," we replied. "All right then," came the response, "we are sending you a dozen of our frost wipers. We want you to distribute these among the operators to prove that we've got what they want." We'll attend to the distribution; the wipers will have to attend to the rest of the business.

T-h-r-e-e M-o-n-t-h-s!

Daily or weekly checking of air pressure in tires may be discarded sooner than the 18th Amendment. Firestone has been developing a leakproof tube for some time. Test of the latest experimental tubes showed no loss of pressure in three months.

A New Van Trailer

A truck manufacturer informs us confidentially that he will soon offer a lightweight trailer van body which costs no more than a conventional steel body and which weighs about the same as an aluminum body.

And New Transmissions

A new line of transmissions will be announced by the Spicer Mfg. Co. Details may reach us in time for August publication.

Interesting If True

A prominent manufacturer of trucks, we are informed by a postscript in a personal letter, will make a very interesting announcement in September. The postscript said it would be very interesting to *us*. We'll let you in on it.

A Fume Catcher

Motor fumes form a problem that fleet operators are trying hard to lick. If you are an operator who is troubled with "gassing" you may be interested to know that there's a device on the market which not only catches the odorous vapors which ordinarily escape from the breather pipe, but which also reclaims the oil in oil fumes and uses it for overhead lubrication of valves, valve guides and pistons. Name and address on request, as the saying is.

Air-Cooled Truck Engine

Doman & Marks, automotive engineers, Syracuse, N. Y., write us that the new direct air-cooled engine especially designed for trucks which will soon be on the market will be available in four, six and eight-cylinder types. Two fours will have displacements of 206 and 251, respectively; two sixes will have 309 and 377, and two eights will have 298 and 322. A new company will be formed to manufacture and distribute. Messrs. Doman & Marks, you may not know, were formerly research engineer and chief engineer respectively of the Franklin Automobile Co.

Line Starts Right Now

An up-to-date interpretation of motor vehicle size and weight restrictions will be published in tabular form in the August number of COMMERCIAL CAR JOURNAL. Previous interpretations by state authorities were published, you may recall, last July and November. At the moment of writing returns have been received from 41 states. If you want reprints of this table you better get your request in early because previous batches went quickly.

New Ideas in a Truck

A truck with tubular frame, front-wheel drive, springs with both ends free and sliding in rocker arms, low center of gravity and carrying a gross weight rating approximately four times its chassis weight, is making its bow. The name is Curtis-Bill. The maker is Bill Motors Co., Oakland, Calif. The designer, T. H. Bill, was formerly with Fageol and Jeffrey Quad. Model 15FR, the first of the line is pictured on this page. All models will be available in front-wheel-drive, rear-wheel-drive or four-wheel-drive, as required. Model 15FR is scheduled for description in our August number.

The Night Before Xmas?

Maybe this stirring means something. Two executives of two truck engine manufacturing companies have expressed to us curiosity regarding the identities of the companies referred to recently in this department in connection with impending diesel engine announcements. We know that one of the companies represented by these important executives has been experimenting with a diesel. The other has not done any experimenting.

Coming Clean on Diesels

Because of events we are able now to reveal the names of two companies which were mentioned here anonymously. One is Hercules Motor Corp. The Hercules diesel is now optional on six of the new Marmon-Herrington models at $1950 extra. This is its first appearance. We have wired the factory for all of the interesting details.

Oil Burner vs. Diesel

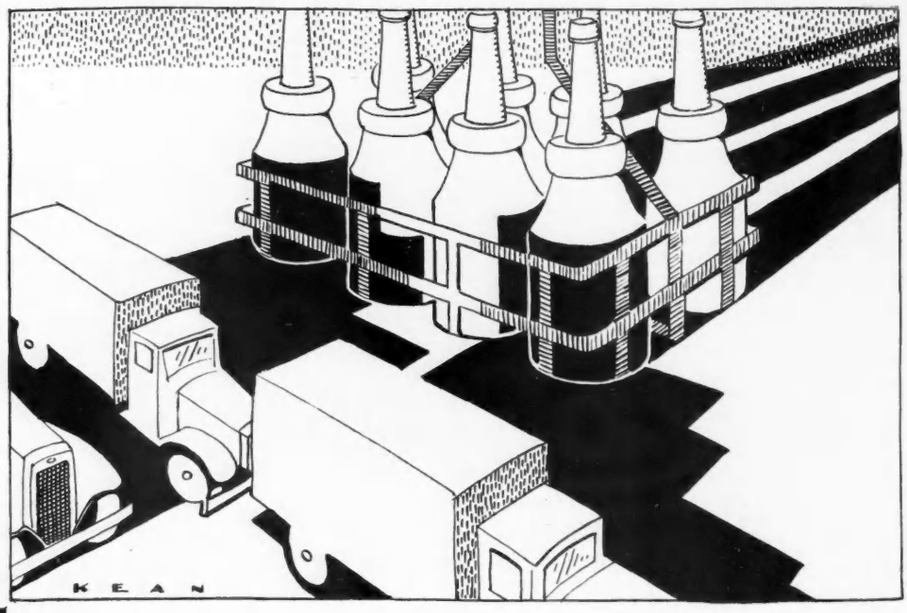
The other company is Waukesha Motor Co. It will bring out the 130 hp. diesel job mentioned here last month. The reason why you haven't had any details from us regarding the Waukesha-Hesselman oil-burning engine (mentioned in other publications) is because the factory wired us that it preferred to hold up the Hesselman story until the 130 hp. diesel was ready. The Hesselman, we should tell you this much to avoid your becoming confused, is an oil burner which has spark ignition just like a gasoline engine. It is consequently not a diesel, which effects ignition by means of compression. Basic Hesselman patents are held by a Swedish company with that name.

Something for Nothing

If you have use for it, the International Nickel Co., 67 Wall St., New York City, will send you a slick circular chart that will enable you to choose nickel alloy steels. All you do is select the required size and desired yield point in the margin, and little windows will show you the recommended steel, treatment and approximate properties.

Pardon the Predictions

Our subsidiary, the Ford Rumor Bureau, is red-faced but not chagrined by the failure of its predictions in this department last month. The Bureau spokesman alibis that the general upturn in business must have upset all reported plans. He is amazed, at this moment, at his inability to raise even a measly cloakroom rumor about Ford. He is inclined to consider this silence as "the ominous calm preceding a storm." We're telling you that if the storm doesn't break soon he can expect a shower of over-ripe fruit.—G.T.H.



Operating Variables Cast Their Shadows on an Oil's Value

The author is managing director of Faber Petroleum Inspection Service, San Francisco, Calif.

By Clifford R. Stewart, Chemical Engineer

"THE various and usual characteristics of a given oil, upon which its recommendations or purchase or advertising laudation is based, are dependable and valuable in terms of engine performance and dollars-and-cents cost only to a limited degree."

WHEN the Commercial Car Journal presents an article offering the views of experts, or even of experienced laymen, on the construction or operation of trucks or any material used in such construction or operation, anyone interested in the general subject would do well to "assume an upright posture and begin observing." For it is certain to be well worth reading and to contain food for thought. One need not—in fact, usually does not—agree with all of the sentiments expressed, but that merely indicates how accurately the magazine in question reflects contemporary opinion, for experts, I believe, are notoriously prone to disagree.

The articles by Silas I. Royal, lubrication engineer and oil chemist, on various phases of the much-discussed question of oil, are intensely interesting and have provoked much thought and no doubt considerable comment. But I find in them a number of conclusions which I cannot accept. I should like, therefore, to comment on these conclusions from my own viewpoint. At least I hope to be able to "give a reason for the faith that is in me."

In the first place, then, Mr. Royal states that "if the viscosity of oil in an engine crankcase changes following the draining and refilling period, it indicates that something is wrong either with the engine or with the oil, or both." He proceeds to elaborate that assertion and refers to viscosity in terms of S. A. E.

Now, the S. A. E. viscosity rating is based upon the results obtained in the Saybolt Universal Viscosimeter, which valuable instrument plays no small part in the refinery control and in the marketing of lubricating oils. BUT—and it is a very serious, even a vital, "but," I assure you—after an oil has been used and thus has become contaminated in varying degree, it is my contention that tests of viscosity by means of the Saybolt Universal viscosity apparatus and the results obtained therefrom are of little comparative value. Let me show you why.

In measuring an oil for viscosity in the Saybolt Viscosimeter, the A. S. T. M. prescribes that certain temperatures must be maintained and also that the oil must be strained when placed in the apparatus. Therefore, if an oil contains a high percentage of dilution (and I have seen as high as a 30 per cent dilution in oils) and this dilutent is the result of bad spark plugs, sticky valves or other cause that might permit the entrance into the crankcase of gasoline rich in its lighter fractions, then the heat necessary in running the oil in the Saybolt machine would distill off a portion of this diluent, thickening the oil in the process. Thus an incorrect result would be obtained, permitting the

(Turn to page 26, please)

Control of Gas and Oil Tightens Up Costs of Laundry Fleet

S. Castner Risley, vice-pres. Risley's Laundry, maintains a personal interest in the fleet

By James W. Cottrell, Technical Editor

THIS article explains a simple system which enabled this fleet to "show better gasoline mileage in its fourth year than in its third, a decrease in oil consumption per mile during the same period and to hold transportation costs to a small percentage of gross business"

A FLEET of trucks which shows better gasoline mileage in its fourth year than in its third, a decrease in oil consumption per mile during the same period and holds transportation costs to a small percentage of gross business is, evidently, well managed, and not permitted to shift for itself.

The fleet to which we refer is that of Risley's Laundry, Pleasantville, N. J., which averaged 8.7 miles per gallon of gasoline during the year 1931 and increased the figure to 8.9 miles per gallon during 1932. Total oil consumption, including drainings, was practically the same for each of the two years, 2098 quarts in 1931 and 2090 in 1932 despite an increase in fleet mileage from a total of 133,506 in 1931 to 147,476 miles in 1932. This is an average of 63.6 miles per quart in the former year and 70.6 miles per quart in the latter.

All of these figures are for the same trucks, a fleet of twelve 1½-ton Model AA Fords, put in service between April, 1928, and June, 1929, except one which was operated for the first time in May, 1931. The total mileage of the group of trucks, upon which this article is based, was 628,425 up to May 31, 1933, which is as a general average of more than 54,000 miles per truck. There are four other trucks, two Diamond T's, used for larger loads, a service truck and one truck bought second-hand.

Laundrymen, like fleet owners in some other vocations, like to compare transportation costs with the volume of gross business. S. Castner Risley, vice-president of the company, compares cost of operating the trucks, minus fixed charges, with volume of gross business. He divides operating costs into supplies and repairs. The former includes gasoline, oil, tires, etc., and the latter takes in labor and material for maintenance. Percentage figures, on this basis, are shown in the accompanying Table 1, Fig. 1.

Adding to the significance of these figures is the unusual delivery set-up of this laundry. It is located on the mainland five miles by road across the Jersey meadows from Atlantic City, the seashore resort which it serves. In addition, routes have been extended along the seashore, both north and south of Atlantic City, extending to Oceanville, Wildwood, inland to Egg Harbor City.

Another factor which must be considered is the highly seasonable nature of the business. The floating population of Atlantic City exceeds 300,000 on peak weekends and the summer population, including guests, is several times the winter population. Deliveries amounted to approximately 3000 bundles per week during the late spring before the summer rush started.

Although transportation cost is but a

1931

Miles Per Gallon

Truck	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept	Oct.	Nov.	Dec.	Yearly Aver.
#1	6.9	7.0	7.0	6.8	7.3	7.4	7.3	8.5	8.6	8.6	8.9	8.4	7.7
2	6.4	7.5	7.6	7.7	8.0	8.5	8.5	7.2	8.0	6.6	6.0	6.0	7.3
3	7.2	8.4	8.7	8.5	7.9	7.4	8.6	9.5	...	...	...	5.7	7.9
4	7.1	8.2	10.8	8.8	7.5	9.2	5.6	4.7	9.6	10.5	8.1	6.4	8.0
5	8.2	9.0	9.1	8.9	5.1	9.2	8.8	10.4	9.3	8.9	7.8	8.2	8.5
6	8.0	8.9	8.9	5.9	10.0	8.8	9.7	8.1	10.6	9.0	10.0	8.7	8.8
7					7.1	8.9	8.8	9.1	8.9	8.8	9.0	8.1	8.5
8	10.3	10.6	10.5	9.6	7.5	8.0	10.3	11.7	10.8	11.4	11.3		10.1
11	11.2	10.8	12.7	12.8	12.1	12.8	13.0	13.3	12.2	....	...	12.9	12.3
12	10.2	9.5	6.3	10.4	9.5	10.5	10.1	11.0	10.5	10.5	10.5	10.5	9.9
13	13.8	12.4	14.0	13.0	13.3	13.3	12.7	12.5	13.6	12.6	14.2	10.1	12.9
14	14.5	15.4	14.3	13.7	13.2	15.0	16.7	14.3	15.6	16.6	15.7	14.8	14.9
19		11.0	7.8	10.2	10.0	7.5	8.1	8.1	7.7	9.1	7.6	9.3	8.7

1931

Quarts of Oil

Truck	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year
#1	2	5	6	4	3	4	4	6	6	6	4	7	57
2	1	2	5	8	3	5	12	6	5	8	9	8	72
3	8	9	10	10	11	13	19	13	3	11	5	13	125
4	8	15	9	11	15	12	1	16	9	4	10	15	125
5	8	9	12	11	9	7	11	21	11	3	2	1	106
6	23	19	18	10	14	8	13	14	11	8	10	11	159
7					2	6	8	3	2	1	2	4	28
8	21	18	20	23	8	22	28	28	22	15	15	15	235
11	4	5	6	6	6	6	8	15	15	9	14	25	119
12	38	29	9	21	16	24	21	24	19	17	13	14	245
13	19	21	19	18	21	37	52	53	41	12	9	6	308
14	31	27	37	27	19	25	26	32	36	36	39	44	379
19		11	11	16	13	11	13	16	14	11	14	11	141
													2098

Truck Nos. 1 to 8 - city routes - average 8.3 miles per gallon
Truck Nos. 11 to 14 - country routes - average 12.5 miles per gallon
Truck No. 19 - extra truck with low gear ratio averages 8.7 miles per gallon

Table 1 Operating Costs

	1930	1931	1932
Supplies, inc. fuel	$2260.32	$2372.24	$3472.05
Percent of gross business	1.28	1.31	1.95
Repairs and parts	$2000.30	$2261.35	$2657.47
Percent of gross business	1.13	1.25	1.51
Repair Labor	205,215	204,120	256,020

Fig. 1. At top. Gasoline and oil consumption records for 1931. At left. Comparison of operating costs. Above. Truck record cards are kept in a drawer in the shop bench.

small percentage of total business, Mr. Risley maintains a personal interest in the fleet and keeps in constant touch with Bert Turner, who is in charge of maintenance. Their cooperative control is responsible, in a large measure, for the gasoline and oil mileage record and the relatively low maintenance cost.

To a degree most unusual for a fleet of its kind, lubrication is controlled and not merely recorded. There is an instrument in the shop for measuring viscosity and it is used frequently, not only for crankcase samples, but to test each barrel of new oil. Surprising as it seems, several shipments of new oil were found to be of different viscosity than ordered, and marked.

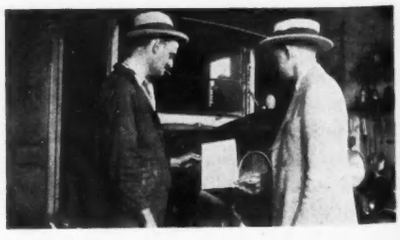
Viscosity is measured in a simple pipette on a stand. Oil is heated in a glass flask on an electric hot plate to standard test temperature. The apparatus is not as accurate as a laboratory viscosimeter but the results are sufficiently accurate for the desired control of engine lubrication.

Oils of high quality have been used throughout the life of this fleet. Engine oil is tested at intervals for viscosity change, sludge and carbon, according to the plan of Silas I. Royal, whose articles on the subject are appearing in current issues of COMMERCIAL CAR JOURNAL. As a result of continued tests and experience Mr. Turner has set a standard of 2000 miles of operation between oil changes. Oil when drained at this interval shows practically no sludge or carbon and but a very narrow variation in viscosity. Oils offered for sale to the fleet are tested in operation against the 2000-mile standard established with known high quality oils.

That the lubrication plan is effective is shown by the record of parts purchased, there being practically no large engine parts. Only one engine has been replaced in the five years of operation and that was due to the oversight of a mechanic who left a wiping rag inside the engine.

In a drawer in the shop bench, not in the laundry office, is a card record of every truck in the fleet showing gasoline and oil put in each day, monthly average of gasoline mileage, mileage for the month and a running account of maintenance and repairs, including oil changes. See Fig. 2.

These cards are not dead histories of past events but a live record which is used to control maintenance. For example, the card for truck No. 11 shows that 34 quarts of oil were added to the crankcase during the month of April, 1932. The monthly summary sheet, Fig. 2, Quarts of Oil, 1932, shows 44 quarts in March and 35 quarts in February. These figures are abnormally high for this route and Mr. Turner proceeded



S. Castner Risley confers with Bert Turner, shop foreman about a repair job on an engine

1 9 3 2

Miles Per Gallon

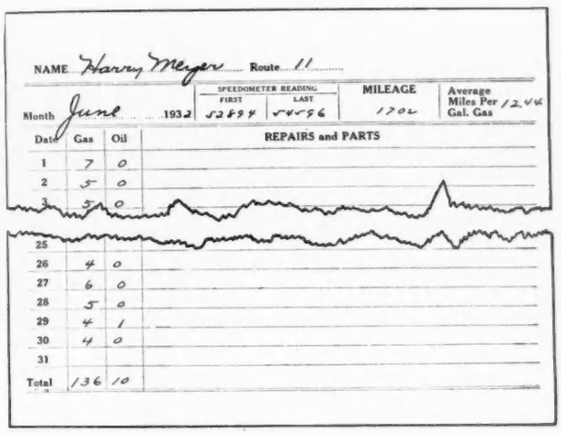
Truck	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept	Oct.	Nov.	Dec.	Year
#1	7.2	7.3	8.2	8.0	8.0	8.0	8.4	8.9	9.4	9.0	8.1	9.0	8.2+
2	4.5	5.2	7.1	8.7	7.0	8.6	8.3	8.8	8.4	8.9	8.9	8.6	7.6+
3	6.8	7.1	7.3	8.7	8.0	8.3	8.0	8.1	7.7	8.0	7.3	7.5	7.7-
4	6.2	5.7	5.7	6.6	5.0	5.8	6.0	7.2	7.0	7.0	6.4	7.0	6.3-
5	7.7	7.9	7.6	8.4	7.0	7.6	8.1	8.3	8.7	8.0	8.2	8.9	8.0-
6	9.1	9.4	9.1	5.8	8.0	8.5	8.6	8.3	8.3	8.0	8.5	8.4	8.3-
7	8.2	7.4	8.6	9.3	7.0	9.5	10.1	9.9	9.9	9.0	8.4	8.4	8.8+
8	10.8	10.7	11.5	12.7	11.0	11.4	11.9	11.0	11.6	10.1	10.8	11.7	11.2+
11	13.0	13.2	13.3	14.1	8.3	12.4	12.3	12.3	12.8	10.3	12.7	11.0	12.1-
12		9.8	10.7	12.0	10.8	10.8	11.9	11.1	11.5	9.0	9.0	9.4	10.5+
13	10.7	14.6	11.8	9.1	11.4	11.9	15.2	13.6	14.2	10.3	10.4	14.4	12.3-
14	15.4	8.2	9.5	13.2	15.0	16.3	15.7	16.4	16.0	10.4	13.2	13.8	13.5-
16					5.0	11.5	14.2		12.3	10.9	17.5	16.6	12.5
17						11.4	12.5	11.4	11.5	10.2			11.4
19	7.4	6.1		9.3	13.7	5.8	5.9	11.8	10.7		9.7	9.0	8.9+
20			3.6	7.8	6.5	7.0		8.4	7.0				

Truck Nos. 1 to 8, city routes, average 8.2 miles per gallon
Trucks Nos. 11 to 17, country route, average 12.0 miles per gallon
Truck No. 19, extra, averages 8.9 miles per gallon

1 9 3 2

Quarts of Oil

Truck	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept	Oct.	Nov.	Dec.	Year
#1	12	9	14	16	15	10	14	25	22	18	20	11	186
2	5	10	10	7	6	10	7	13	17	9	13	9	116
3	13	10	10	11	9	14	8	16	14	8	11	10	134
4	11	13	10	13	8	7	13	8	13	7	12	10	125
5	8	4	3	10	2	3	8	7	10	3	8	5	71
6	16	12	3	8	6	5	13	5	9	2	7	3	89
7	8	6	7	14	10	11	8	17	14	12	12	10	129
8	6	15	13	16	12	15	12	19	19	14	14	12	167
11	28	35	44	34	13	10	8	9	12	8	11	13	225
12	8	9	4	8	3	7	5	13	14	5	14	10	100
13	12	12	10	10	6	10	29	34	34	26	11	10	204
14	40	6	7	11	6	13	25	22	29	40	51	22	272
16					0	9	2	5	4	6	9	10	45
17						7	16	14	8	8		8	59
19	17	8		23	21	21	14	29	7	10	11	7	168
20	1	2	21	24	27	18	1	0	0	0	0	0	
													2090



NAME Harry Meyer Route 11

Month June 1932 — Speedometer Reading: First 52694, Last 54396 — Mileage 1702 — Average Miles Per Gal. Gas 12.44

Date	Gas	Oil	REPAIRS and PARTS
1	7	0	
2	5	0	
3	5	0	
25			
26	4	0	
27	6	0	
28	5	0	
29	4	1	
30	4	0	
31			
Total	136	10	

Truck No.	Make	Date in Service	Mileage in 1931	Mileage in 1932	Total Mileage to June 1, 1933
1	Ford	April 10, 1928	9,924	9,901	52,245
2	Ford	June 2, 1926	9,518	9,140	44,371
3	Ford	June 27, 1928	6,548	8,652	37,923
4	Ford	Aug. 17, 1928	6,208	7,149	35,436
5	Ford	Sept. 6, 1928	9,584	9,724	44,797
6	Ford	Oct. 5, 1928	9,630	8,370	49,308
7	Ford	May 18, 1931	8,280	11,811	23,412
8	Ford	April 7, 1928	12,072	13,592	44,322
11	Ford	Dec. 20, 1928	10,401	17,064	69,395
12	Ford	Jan. 3, 1929	13,152	12,335	54,033
13	Ford	June 5, 1929	18,506	17,162	63,578
14	Ford	Dec. 12, 1928	19,683	22,578	89,605
			133,506	147,478	628,425
16	Used	New in 1928	(Put in operation 1932)		35,497
17	Diamond T	May 1932			18,328
19	Service work	Feb. 1930			10,647
20	Diamond T	May 22 1932			18,608
					711,505

Fig. 2. At top. Gasoline and oil records for 1932. At right. Yearly and total mileage table. Above. Individual truck record card filed in bench drawer.

to do something about it. He does something whenever oil consumption goes to more than 15 quarts per month.

The card for truck No. 11 shows that on April 21 the engine was torn down. After studying the record of previous work on the engine and inspecting the parts, he decided to make the repairs necessary to restore the engine's efficiency. The work included, among other operations, installing new rings on old cast iron pistons, cleaning pistons, installing four new exhaust valves and all new valve guides.

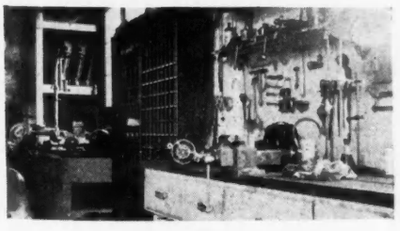
The records show as plainly as an ink spot on white flannels the results of the work. Oil consumption dropped to 15 quarts in May and to 10 quarts in June and the showing is still better on a mileage basis because the truck traveled 1702 miles in June compared with 1269 in April.

Because the cards are right within reach in the shop, Mr. Turner can consult them easily and when any question about major overhauls arises, he can readily show the recent history of the truck to Mr. Risley.

Routine maintenance includes inspection and lubrication every 1000 miles, oil draining at 2000 miles, as previously noted, and carbon and valve jobs at 10,000 miles. For the latter, like the others, there is a reason.

Gasoline mileage is watched carefully and, like oil mileage, controlled as much as possible. Adequate lubrication of the engine contributes to a good showing but other factors are not overlooked. Engine compression is one of the more important. Frequent tests of compression pressure with a gage showed that when compression decreased so did gasoline mileage, as might be expected. After continued tests Mr. Turner determined that a carbon and valve job at intervals of

(Turn to page 50, please)



Workbench, stock bins and racks are all on one side of the fleet shop of Risley's Laundry.

Operating Variables Cast Their Shadows on an Oil's Value

(*Continued from page 22*)

drawing of false and misleading conclusions.

Furthermore, the process of straining the oil would remove a large part of the carbonaceous and siliceous material and the sludge or emulsion resulting from the water of combustion or condensation and therefore the flow of the oil through the Saybolt orifice would differ greatly from the flow of that oil as it was while in the crankcase and *not partially strained or distilled.* How, then, can any deductions be sound or of value when based upon such inaccurate determinations?

(Editor's Note. The author points out the deficiency of the Saybolt Universal Viscosimeter and the A. S. T. M. method for determining the viscosity of crankcase samples containing sludge, solids and dilution. Mr. Silas I. Royal agrees with these conclusions and for this very reason uses a different method for determining viscosity of oil as drained. He will explain his choice in an early issue.)

● *Viscosity Not Sole Gage*

Unquestionably the viscosity of an oil, as retarded by sludge, emulsion, carbon or road dirt, is an index as to what may be expected in oil performance. But what if this retardation is balanced by dilution? Unless a means of measuring viscosity without disturbing the extraneous matter and dilution is used, a test or series of tests can be of small value.

Much more than the viscosity and solids determinations are necessary to determine when the oil should be changed. For example: a crankcase oil may contain 7 per cent, by volume, of solids, yet due to low operating temperature these solids may be what we term "fuel soot" which are soft sooty carbons having no particularly abrasive qualities and therefore are not extremely harmful, although their presence is not desirable. On the other hand a crankcase oil may contain only 7/10 per cent solids and these solids may be hard abrasive carbon and products of friction in the form of abraded metal. The nature of the solids is of far greater importance than their volume.

Again, Mr. Royal states that "a decrease in viscosity indicates dilution; an increase, evaporation of oil by heat." With that declaration, also, I must beg leave to take issue. My contention in this regard is based on the results of the commercial qualitative and quantitative analyses made of samples of drainings from practically every type of internal combustion engine, using nearly every known brand of crankcase oil and operating under every conceivable condition, with draining periods of from 300 to 12,000 miles. These analyses cover a period of four and one-half years.

I cannot emphasize too strongly, in reply, the fact that certain oils, of the cheaper grades particularly, not only become thin and lose viscosity during periods of high temperature, but remain in this condition after presumably suffering evaporation of oil by heat. This loss of viscosity cannot be laid to dilution in many cases.

Let me quote Mr. Royal once more. He says: "Crankcase dilution shows poor engine supervision." I cannot agree with this, either. The accuracy of such a conclusion can be easily disproved, in fact, by the results afforded from an observation and testing of oils drained from the crankcases of groups of 10 or 20 vehicles, all new, all under factory guarantee as to perfection of condition. Despite the seeming similarity of conditions in all of these cars, surely as near to absolute equality in that respect as any test could provide, some of these automobiles will reduce crankcase oil to a condition where lubricating efficiency is practically nil at the end of 300 elapsed miles, while others will maintain a high degree of effective lubrication for periods of travel up to as much as 4000 miles. Could anything afford a more striking or convincing demonstration of the variability of engine performance by supposedly exactly similar machinery? The answer to this seeming mystery is, of course, that the nature of the work upon which the car is engaged, the topography of the district wherein it is operating, the weather conditions, the kind of fuel used, the kind of lubricating oil and, last but by no means least, the identity of, or perhaps I should say the methods used by, the driver may and do make vast differences in the results obtained. Any one or all of these factors may contribute to a high or low dilution content. No one—and I challenge anyone to successfully disprove this—can tell in advance what an oil will accomplish in a crankcase as to affording or not affording lubricating value unless he is apprised, with considerable accuracy, as to the presence or absence of these factors I have mentioned. It is easy to be seen, therefore, that the various and usual characteristics of a given oil, upon which its recommendation or purchase or advertising laudation is based, are dependable and valuable in terms of engine performance and dollars-and-cents cost only to a limited degree.

● *Test Data Not Clear*

Further tests mentioned in Mr. Royal's series of articles and with which I find I must take issue have to do with conducting a sequence of tests with various oils. The results of these tests are given and they are even plotted on graphs, but no evidence is offered to show whether there was a suitable break or resting spell for the cars providing the activities for the tests between the runs or not. If the data given on oil No. 2 were obtained after a run was made with oil No. 1 and no provision was made to obviate the reaction of oil No. 1, a decided and very notable effect of the first oil would be to influence materially the results obtained in examining and testing oil No. 2 after it had completed its allotted run.

I welcome the opportunity of protesting against and refuting the claim of Mr. Royal that: "There is no satisfactory laboratory test for the lubricating quality of an oil." There definitely *is* such a test and plenty of apparatus for the same. Such tests are conducted daily in our three laboratories upon thousands of samples of lubricating oil. I may say, however, that our ultimate diagnoses are the results of a number of correlative tests, combined with the means of evaluating the lubricating quality of an oil, as mentioned in the foregoing remarks.

Hot Stuff! A Series on Welding

By Billie Burgan

Mr. Burgan is a practical operator in charge of the Hage's Ice Cream Co. fleet, San Diego, Cal. He has made a special study of welding apparatus and has done so many money-saving jobs with his outfit that we asked him to give readers of Commercial Car Journal the benefit of his experience. The first article will be published in the August issue.

Here Are the Formulas to Help You Engineer Transportation

THE formulas for calculating truck performance and weight distribution included in the series of articles commencing in the August, 1932 issue are here reviewed in one article for ready reference. They include figures for horsepower, torque, tractive ability, engine and vehicle speed, gear ratio, grade ability and the S.A.E. performance factors, in addition to weight distribution.

Each of the formulas was explained in detail in one of the preceding articles, published in August, September, October, November and December of 1932, and January, February, March and June of 1933.

CALCULATIONS of truck performance are based upon engine power expressed either in horsepower or torque; the rear axle gear ratio, which multiplies the torque and divides the speed in equal proportions; the size of the rear tires and the gross weight of the vehicle. With these facts at hand a truck user or seller is able to predict, with a high degree of accuracy, the ability of a given truck.

• *Engine Power*

No. 1. Horsepower of an engine is equal to the torque, usually expressed in pounds-feet, x 2 x 3.1416 x RPM of the engine divided by 33,000. (One horsepower is the ability to raise 33,000 lb. one foot per minute.)

No. 2. For licensing purposes in certain States the N. A. C. C. formula is used. It is much shorter than the preceding formula and others, but is by no means as accurate, as inspection of figures in C. C. J. Specification Table will reveal. By this formula horsepower equals bore x bore x number of cylinders divided by 2.5. Both maximum horsepower and the N. A. C. C. horsepower figures are listed in the C. C. J. Table.

Nos. 3, 4, 5. Torque, which is the ability of an engine to twist or turn the propeller shaft, likewise is given in the Table. However, in the S. A. E. formulas, torque is calculated from the piston displacement of the engine.

Torque equals piston displacement x .625, which means that it is assumed that every cu. in. of piston displacement will develop .625 ft. lb. of torque. No. 3. The average of engines listed in the C. C. J. Table several months ago was .637 ft. lb. per cu. in.

• *Tractive Ability*

No. 6. Tractive effort is equal to torque x 12 x efficiency of the drive, assumed to be 90 per cent, x axle gear reduction divided by the rolling radius of the rear or driving tire.

No. 7. The tractive factor expresses the ratio between tractive effort and weight and is calculated by adding vehicle gross weight to the lower part of the formula. Thus: tractive factor equals torque x 12 x efficiency of the drive x axle gear reduction divided by rolling radius of the rear tire x GVW.

• *Engine and Vehicle Speed*

For selecting gear ratios and figuring vehicle performance generally the speed which the vehicle will make for a given engine speed or the engine speed required for a given vehicle speed are desired. The two formulas are simply transpositions of terms of each other.

No. 8. MPH equals 60 x RPM x 2 x 3.1416 x rolling radius of the tire divided by 5280 x 12 x axle gear reduction. That is a lot of figuring but the numbers may be multiplied and divided in advance. This gives: MPH equals RPM x rolling radius divided by 168 x axle gear reduction.

No. 9. The corresponding engine speed formula is: RPM equals MPH x axle gear reduction x 168 divided by rolling radius of tire.

No. 10. In both formulas 8 and 9 the gear ratio is known but frequently the truck seller or owner will wish to determine the gear ratio which should be used

Formulas For Use in Fitting the Truck to the Job

1. $HP = \frac{\text{Torque x 2 x 3.1416 x RPM}}{33{,}000}$

2. $HP\ (NACC) = \frac{\text{bore x bore x no. cyl.}}{2.5}$

3. Torque (maximum) = piston displacement x .625

4. Torque (at governed engine speed) = piston displacement x .519

5. $\text{Torque (c)} = \frac{GVW \times r \left(\frac{G}{100} + RF\right)}{10.8 \times R}$

(c) required for given performance

6. $\text{Tractive effort} = \frac{\text{torque x 12 x .90 x R}}{\text{rolling radius}}$

7. $\text{Tractive factor} = \frac{\text{torque x 12 x .90 x R}}{\text{GVW x rolling radius}}$

8. $MPH = \frac{\text{RPM x rolling radius}}{\text{168 x gear reduction}}$ or $= \frac{RPM}{K \times \text{red.}}$

9. $RPM = \frac{\text{MPH x gear red. x 168}}{\text{rolling radius}}$

10. $\text{Ratio} = \frac{RPM \times r}{MPH \times 168}$ or $= \frac{RPM}{MPH \times K}$

11. $\text{Performance factor} = \frac{3.34 \times D \times \text{gov'd speed}}{GVW}$

12. $MPH = \frac{\text{Performance Factor}}{\text{Grade in per cent} + 1.5}$

13. $\text{Grade} = \frac{PF}{MPH} - 1.5$

14. $GVW = \frac{6.75 \times D \times \text{gear red.}}{\text{rolling radius}\left(\frac{G}{100} + .015\right)}$

15. $\text{Grade} = \frac{675 \times D \times R}{\text{rolling radius x GVW}} - 1.5$

16. $\text{Payload front axle} = \frac{B \times \text{payload}}{\text{wheelbase}}$

17. $\text{Payload rear axle} = \frac{A \times \text{Payload}}{\text{wheelbase}}$

Key to Characters

D = piston displacement
R = rear axle gear reduction
r = rolling radius driving tire
RF = Road rolling resistance; .015 lb. per lb. GVW
PF = performance factor
G = grade in per cent
GVW = Gross vehicle weight, or gross train weight.
K = A factor used to simplify calculations, see table below

to meet specified engine and vehicle speeds. The ratio equals RPM x rolling radius of the tire divided by MPH x 168.

A "K" factor can be used to simplify calculations in the miles per hour and ratio formulas. The K factor is a figure based upon the revolutions per minute of a given tire running under load at one mile per hour, thus eliminating rolling radius and the number 168 from two formulas. The K factor formulas have been added as equal terms in formulas 8 and 10.

Two formulas for vehicle speed and for grade are included in the table. They do not conflict but give the same answers, the difference is that they are to be used with different facts. Formula 8 is used when engine speed, tire size and gear reduction are known. If a truck manufacturer supplies the S. A. E. performance factor for a given model the speed capability is determined by formula 12. However, the interchange of speed and grade ability is limited to the gear ratios available. Likewise, grade ability is calculated from the S. A. E. performance factor by using formula 13. Grade ability is calculated directly by formula 15 from which known facts concerning engine displace-

(Turn to page 30, please)

Table of S.A.E. Performance Factors

Performance Factor	Based on S.A.E. Performance Factor Rating for Road Resistance of 30 lbs. per ton — Miles Per Hour in High Gear								
	45	40	35	30	25	20	15	12	8
100	0.7	1.0	1.4	1.8	2.5	3.5	5.2	6.8	11.0
105	0.8	1.1	1.5	2.0	2.7	3.7	5.5	7.2	11.6
110	0.9	1.2	1.6	2.2	2.9	4.0	5.8	7.7	12.2
115	1.1	1.4	1.8	2.3	3.1	4.3	6.2	8.1	12.9
120	1.2	1.5	1.9	2.5	3.3	4.5	6.5	8.5	13.5
125	1.3	1.6	2.1	2.7	3.5	4.7	6.9	8.9	14.1
130	1.4	1.7	2.2	2.8	3.7	5.0	7.2	9.3	14.8
135	1.5	1.9	2.4	3.0	3.9	5.3	7.5	9.7	15.4
140	1.6	2.0	2.5	3.2	4.1	5.5	7.9	10.2	16.0
145	1.7	2.1	2.7	3.3	4.3	5.7	8.2	10.6	16.7
150	1.8	2.2	2.8	3.5	4.5	6.0	8.5	11.0	17.3
155	2.0	2.4	2.9	3.7	4.7	6.3	8.8	11.4	17.9
160	2.1	2.5	3.1	3.8	4.9	6.5	9.2	11.8	18.5
165	2.2	2.6	3.2	4.0	5.1	6.7	9.5	12.2	19.1
170	2.3	2.8	3.4	4.2	5.3	7.0	9.8	12.7	19.8
175	2.4	2.9	3.5	4.3	5.5	7.3	10.2	13.1	20.4
180	2.5	3.0	3.7	4.5	5.7	7.5	10.5	13.5	21.0
185	2.6	3.1	3.8	4.7	5.9	7.7	10.8	13.9	21.6
190	2.7	3.2	3.9	4.8	6.1	8.0	11.2	14.3	22.3
195	2.8	3.4	4.1	5.0	6.3	8.3	11.5	14.8	22.9
200	2.9	3.5	4.2	5.2	6.5	8.5	11.8	15.2	23.5
205	3.0	3.6	4.4	5.3	6.7	8.7	12.2	15.6	24.1
210	3.2	3.7	4.6	5.5	6.9	9.0	12.5	16.0	24.7
215	3.3	3.9	4.7	5.7	7.1	9.3	12.8	16.4	25.4
220	3.4	4.0	4.8	5.8	7.3	9.5	13.2	16.8	26.0
225	3.5	4.1	4.9	6.0	7.5	9.7	13.5	17.2	26.7
230	3.6	4.2	5.1	6.2	7.7	10.0	13.8	17.6	27.2
235	3.7	4.4	5.2	6.3	7.9	10.3	14.2	18.1	27.9
240	3.8	4.5	5.4	6.5	8.1	10.5	14.5	18.5	28.5
245	3.9	4.6	5.5	6.7	8.3	10.7	14.8	18.9	29.1
250	4.0	4.7	5.7	6.8	8.5	11.0	15.2	19.3	29.7
255	4.1	4.9	5.8	7.0	8.7	11.3	15.5	19.7	30.4
260	4.3	5.0	5.9	7.2	8.9	11.5	15.8	20.2	31.0
265	4.4	5.1	6.1	7.3	9.1	11.7	16.2	20.6	31.6
270	4.5	5.2	6.2	7.5	9.3	12.0	16.5	21.0	32.3
275	4.6	5.4	6.4	7.7	9.5	12.3	16.8	21.4	32.9
280	4.7	5.5	6.5	7.8	9.7	12.5	17.2	21.8	33.5
285	4.8	5.6	6.7	8.0	9.9	12.7	17.5	22.2	34.1
290	4.9	5.7	6.8	8.2	10.1	13.0	17.8	22.7	34.7
295	5.0	5.9	6.9	8.3	10.3	13.3	18.2	23.0	35.3
300	5.1	6.0	7.1	8.5	10.5	13.5	18.5	23.5	36.0

Cab to axle distance, CA, should be more than half the body length. B should be forward of rear axle and equal to about 15 per cent of wheelbase

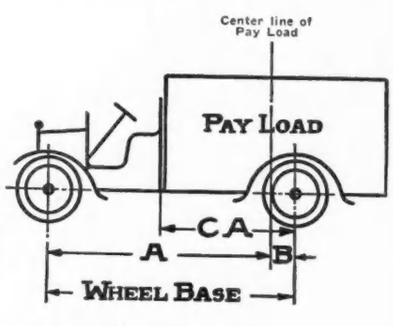


Table of "K" Factors

TIRE SIZE	LOAD	LOADED RADIUS	K
BALLOON			
5.50-20	1225	15.19	11.06
6.00-20	1400	15.42	10.88
6.50-20	1650	15.98	10.50
7.00-20	1900	16.49	10.18
7.50-20	2100	16.90	9.94
22	2250		
24	2400	18.84	8.91
8.25-20	2550	17.70	9.48
22	2800	18.72	8.97
24	2950	19.64	8.55
9.00-20	3250	18.20	9.23
22	3500	19.16	8.77
24	3650	20.12	8.35
9.75-20	3900	18.87	8.90
22	4200	19.84	8.46
24	4400	20.82	8.07
10.50-20	4700	19.55	8.59
22	5000	20.50	8.20
24	5200	21.44	7.83
11.25-20	5450	20.23	8.29
22	5800	21.07	7.97
24	6050	22.13	7.59
12.00-20	6250	21.21	7.91
22	6700		
24	6950	22.95	7.32
12.75-20	7200	21.63	7.75
22	7700		
24	8000	23.57	7.13
13.50-20	8200	22.11	7.59
22	8800		
24	9100	24.17	6.95
HIGH PRESSURE			
30x 5-6	1575	15.25	11.00
30x 5-8	1700	15.71	10.66
34x 5	1950	17.70	9.48
32x 6-8	1950	16.02	10.48
32x 6-10	2200	16.72	10.02
36x 6	2500	18.70	8.97
34x 7	2800	17.76	9.45
38x 7	3200	19.67	8.54
36x 8	3600	18.70	8.97
40x 8	4000	20.71	8.10
38x 9	4500	19.88	8.45
42x 9	5000	21.86	7.68
40x10	5500	21.17	7.94
44x10	6000	23.14	7.25

It's Up to Mechanics to Prolong Ring Life

They can do it by choosing the right ring for replacement and fitting it properly

•

UPON a partnership, the members of which are unknown to each other, depends the fate of piston rings installed in an engine in service. Granting that the piston ring maker sees that the rings are right and that the operator is careful, then the service rendered by the rings depends upon the mechanic who installs them. If he does a good job the rings may be expected to last a long time and to satisfy the truck owner during that period. But if the mechanic does not know how to do the job, or does not care how he does it, the best efforts of ring designer and driver go for naught.

Doing a ring job includes much more than slipping one set of rings off the pistons and slipping on a new set. Mechanics face problems which might, and do, bother designing engineers. Just how far rings may be reasonably expected to overcome cylinder and piston wear is what lawyers call "a question at issue." But a mechanic must decide it time after time during his daily work.

Mechanics, too, must choose a type of ring or a combination suitable for the conditions encountered on each job. It is not possible that all of the various and sundry types of piston rings now on the market are intended for the same service. On the contrary, the makers of the rings are spending much time and money to convince users that they have produced rings to meet specific needs.

Distinguishing between compression and oil control rings and their respective applications is no more difficult than the Biblical separation of sheep and goats. But there are oil rings and oil rings and the limiting factors for their use are not always easy to determine.

The conditions under which a truck engine operates guide the skillful mechanic in choosing rings. Some operations call for a maximum amount of oil control, others for less control. The mechanic has one advantage over his partners, he knows the engines individually. Some engines seem to have a "personal" tendency to pump oil, a fault which mechanics curb by measures which would be too "cruel" for other engines.

UPON the skill and judgment of the mechanic depends the life of piston rings installed in an engine in service. He must choose the ring combination suited to the individual engine and must install the rings properly.

The critical factors in fitting are side clearance in the groove and the gap. The importance of the size of the gap in controlling leakage is much less than commonly believed. The reason for this assertion is explained in simple terms.

This article, the third of a series, shows the joint responsibility of ring designer, truck operator and mechanic for satisfactory ring service.

Despite all these, and other, individual differences between jobs there are certain fundamentals which apply to all ring fitting work. They are essential to good results. They apply to plain as much as special rings, to rebuilt engines as well as the just-last-until-we-trade-it-in vehicles.

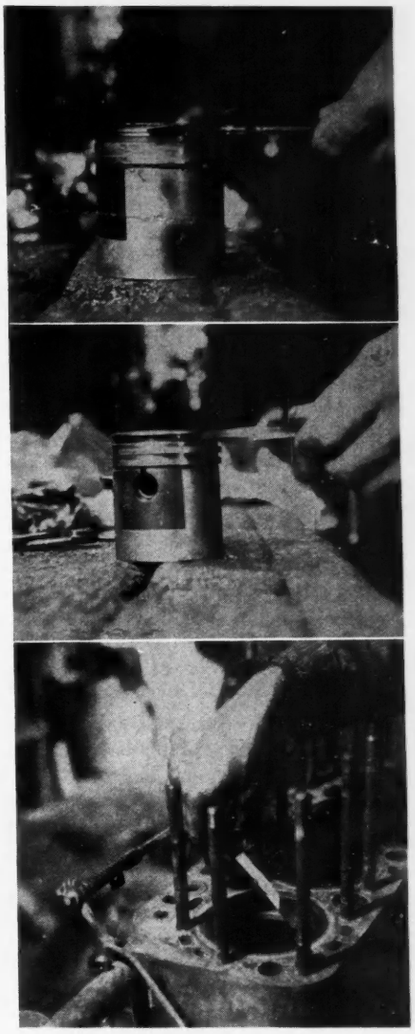
Gap and side clearance are two factors by which most mechanics judge the fit of piston rings. Side clearance is measured by a feeler gage between the ring and either top or bottom of the groove. The ring should not bind anywhere in the groove and as a preliminary test the ring is rolled around the groove with the face inward instead of outward, as shown in illustration.

No ring can be a good fit in a groove filled with carbon nor worn too much on the upper or lower surfaces. The first step in fitting rings, therefore, is to clean the grooves and the oil drain holes, if any. A wire brush on a bench grinder spindle saves time on this operation in many shops.

Although groove fit is not overlooked it is to the gap that a large percentage of mechanics devote their real attention. Some of them seek to increase total pressure of the ring on the cylinder wall by buying rings two or three sizes oversize and then filing the gap to normal fit. Others fit the gap so small that the ends of the ring butt together when the engine is hot. Thereafter things happen.

This "loving care and attention" given to the gap probably is inspired by the fear of leakage of gas from the combustion chamber or oil from the crankcase through the gap. Reducing the gap to the danger point is excused for this reason. Hundreds of designs of means of sealing the gap have been proposed, many of them patented.

The growing popularity of butt joints



Skilled mechanics insure the life built into piston rings and preserved by careful drivers by careful fitting. The critical points are the fit of the ring in the groove and the fit of the ring in the cylinder bore.

Side clearance of the ring is measured by a feeler gage, as at top. Rolling the ring around the groove, as in center, checks burrs and high spots in either ring or groove. Gap is measured with the ring in position in cylinder bore, as above.

on piston rings has flabbergasted a host of the gap leakage worriers. Butt joints have been adopted by factories as original equipment; a prominent ring manufacturer is supplying nothing but butt joints for service work and another making both butt and angle joints states "Leakage through the gap is of negligible importance."

Gap leakage is unimportant because the actual space through which gas or oil can pass is exceedingly small and the gas does not flow down the space between the ends of the ring next to the cylinder wall; that is on the outside of the ring. Any gas which gets by a ring gap passes through a very fine hole at the top of the ring, then through the relatively large space between the ends of the ring in the groove and then from this space through another very fine hole at the bottom of the ring. The space in the groove between the ends of the ring is so much larger than the space on the face of the ring that the gas would be foolish to try to escape by the latter path.

Gas under pressure of combustion is forced downward and tends to escape by passing the piston. The top of the piston prevents the gas from escaping anywhere except through the narrow space between the top land of the piston and the cylinder wall. This space is an annular ring about 10 to 20 thousandths of an inch wide. Blocking this passage is the top surface of the ring, extending all the way around except at the gap. The gap may be, say, 10 thousandths. That means that the only opening for the gas is a space measuring approximately .015 by .010 in., which gives it an area of only .0015 in. Pretty small.

This .0015-in. orifice opens into the ring groove and at the bottom is another .0015-in. opening. Small wonder that the gas becomes "discouraged." It is just too difficult for the gas to get through all the obstacles. And this situation applies to a butt joint ring.

Because gas leakage at the gap is not important in volume under ordinary conditions engineers strongly urge mechanics to be liberal with ring gaps. The ordinary rule of .003 to .004 in. of gap for each inch of cylinder wall is well established, but the gap might well be larger. One engineer said: "I am more afraid of the gap being too small than too large."

Rings should not be treated harshly when they are mounted on the pistons. The rings are easily distorted when being worked into the grooves, and once distorted they do not return to original condition again while riding up and down the cylinder wall.

Another occasion when rings take a beating is when the piston and rings are being installed in the cylinder. Spring compressors have taken most of the cuss out of this part of the job. It is no secret that it is very difficult to coax some of the trick rings into the cylinder without a compressor.

Even properly fitted rings will go bad if the cylinders are not smooth and straight or if the connecting rods are bent, causing the piston to ride at an angle.

Here Are the Formulas to Help You Engineer Transportation

(CONTINUED FROM PAGE 28)

ment, gear reduction, tire size and vehicle gross weight.

• *S.A.E. Performance*

The S. A. E. truck rating includes as its fourth term a performance factor which is a "numerical index of performance," which may be converted into relative grade and speed ability by easy calculations or by referring to the accompanying table, Fig. 1.

No. 11. This performance factor is based upon piston displacement, engine speed and vehicle gross weight. Gear reduction is omitted because it is assumed that a gear ratio will be selected to apportion speed and grade ability as desired. Performance factor equals 3.34 x piston displacement x governed speed of engine divided by gross vehicle weight. The answer is expressed as a whole number of three digits.

No. 12. To determine speed or grade in per cent which the truck can climb in high gear two formulas are used. The first gives speed of vehicle at governed speed of the engine by dividing the performance factor number by the grade in per cent plus 1.5.

No. 13. Grade equals the performance factor divided by speed in MPH and subtracting 1.5 from the answer.

The number 1.5 is not a mystic symbol nor a hunch. It was approved by the S. A. E. rating committee as an average figure for purposes of comparison of the road resistance. Actual resistance is very high in sand and mud, low on smooth concrete, and is assumed in the latter case to be .150 lb, of gross vehicle weight which is equal to a grade of 1.5 per cent.

Gross vehicle weight which can be hauled by a truck of given characteristics, the grade which a truck of given gross vehicle weight and characteristics can climb and the torque required to provide a given order of performance can be calculated conveniently by one of three formulas recommended by the S. A. E. committee. The formulas include the assumptions for rolling resistance and mechanical efficiency previously mentioned.

No. 14. Gross vehicle weight, or gross train weight in case of trailers, equals torque times 12 times efficiency of drive times gear reduction, all divided by the result of multiplying rolling radius of the tire by grade divided by 100 plus rolling resistance. By inserting the torque factor .625 from formula 3, .90 as the efficiency we have .625 times 12 times .90 which equals 6.75. After putting in the road rolling resistance factor of .015 the simplified formula becomes; gross vehicle weight equals 6.75 times piston displacement times gear reduction divided by the result of multiplying rolling radius of tire by the grade in per cent over 100 plus .015. Truck rating fans will recognize the mathematical expression T x 12 x e x R as a part of the famous Buckendale formula.

No. 15. The grade formula is simply a transposition of terms of the gross vehicle weight formula and it, too, is expressed in full and in simplified form. The latter is the one likely to be used. Grade equals 675 x displacement x gear reduction divided by the result of multiplying rolling radius by gross vehicle weight and from the answer 1.5 must be subtracted.

Switching the factors around again gives the torque formula which like the other two is expressed both at length and in more concise form. The latter is: torque equals gross vehicle weight multiplied by the result of multiplying rolling radius by grade divided by 100 plus rolling resistance factor and then dividing this result by 10.8 x gear reduction. (See No. 5.)

Torque as used in the S. A. E. rating and formulas is less than the maximum torque given by manufacturers or calculated as .625 times piston displacement. (See No. 3.) The reason for the difference is that maximum torque is developed at less governed speed, in almost all instances. The S. A. E. performance factor is based upon performance at engine governed speed and therefore torque used in the formula must be that developed at engine governed speed.

The rating committee recommends that torque at governed speed be as-

(TURN TO PAGE 60, PLEASE)

A Note to Fleet Operators

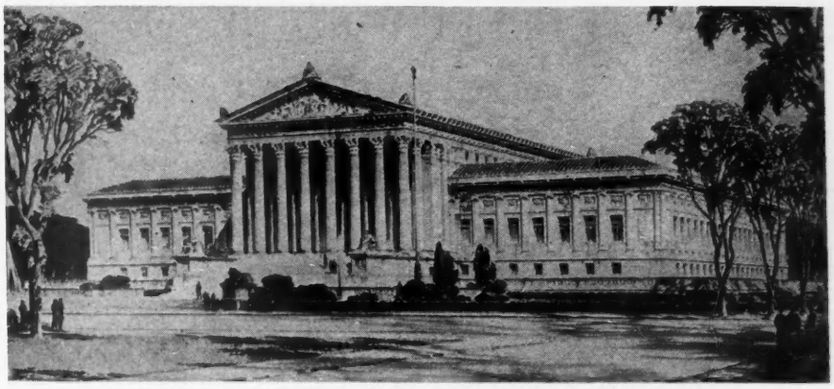
If you are one of the operators who received a copy of the confidential cooling system service questionnaire, we wish to remind you that it is not too late to fill it out and return it if you have not done so.

Analysis of the many returns already in will begin late in July.

If there are any operators who would like to participate in the findings of this important survey we will be glad to send them a questionnaire.

FREE TO READERS

Commercial Car Journal will be glad to procure expert legal advice for any reader who is faced with a legal problem involving a motor truck. There is no charge for this service. Inquiries made in confidence will be so honored. Just address your letters to The Editor.



Architect's drawing of U. S. Supreme Court Building, Washington, D. C.

Court Decisions in Truck Cases

Retail Grocers Fee-Exempt

Nesler v. City of Paragould, Arkansas Supreme Court.

ORDINANCE imposing a license fee (in varying amounts according to the vehicle used) upon persons operating "delivery wagons or motor vehicles for delivery purposes" held not applicable to a retail grocer using a motor truck as an incident to his business making delivery to his customers.

Product Exemption Valid

Nance v. Harrison, Georgia Supreme Court.

ACT exempting motor carriers of farm, dairy, horiticultural products from taxation which was assessed against other motor carriers was not unreasonably discriminatory nor in violation of the equal protection, due process clauses of the state and federal constitutions nor the uniformity clause of the state constitution.

Carrier Must Pay Tax

Jackson v. Harrison, Georgia Supreme Court.

A PERSON hauling personal property from house to house for different persons within a city and occasionally beyond the city for compensation agreed upon at the time, and who hauled lumber and other commodities over no fixed route nor between any fixed termini nor upon any fixed schedule is a motor carrier under Laws, Ex. Sess. 1931, subject to tax on "motor carriers" and the fact that the hauler had qualified under the 1929 Laws "with the understanding from the Public Service Commission" that his certificate of public convenience and necessity would be in force for the period of seven years or so long as he paid $25 per year did not exempt him from the "motor carrier" tax.

Veteran Not Privileged

McKinney v. Patton, Georgia Supreme Court.

AUTHORIZATION of war veteran to conduct a business without a license did not entitle him to operate as a common carrier without compliance with the motor carrier act requiring securing of a certificate of convenience and necessity.

Who's a Commercial Trucker?

Curtis v. Pfost, Idaho Supreme Court.

A TRUCKER who hauled exclusively for one concern under contract was held to be subject to the fifty per cent additional license fees imposed upon "commercial trucks." The statute defined this as a motor truck operated for the transportation of merchandise or raw products for hire whether such truck be engaged casually or continuously. The court held valid the exemption of trucks used within a city or three miles of its boundaries and also farmer-owned trucks used in transporting the products of husbandry.

Cooperative Group is "Carrier"

Parlett Cooperative, Inc., v. Tidewater Lines, Inc., Maryland Court of Appeals.

A COOPERATIVE association hauling the products of its members for hire is not a private carrier but is a "public carrier". Although it is not a common carrier, it is subject to the requirement of securing a permit from the Public Service Commission, notwithstanding the fact that the statute providing for cooperative associations has in it the following provision: "and to transport the products of its members even though in so doing it may compete with licensed common carriers." This, the court holds, is a mere grant of power and not an exemption to the requirements relating to public carriers. Furthermore, such an exemption would not be valid as it would be an arbitrary and unreasonable classification having no apparent relation to the purpose of the law.

Bakers Are Fee-Exempt

City of Lebanon v. Joslyn, Missouri Supreme Court.

MUNICIPAL ordinance levying a license fee on motor vehicles operating on the city streets for the purpose of selling, exchanging, trading or trafficking in personal property goods, wares and merchandise from said motor vehicles, held void as to baking company selling its goods to merchants for resale to retail buyers, such business not coming within list of occupations which the city is permitted to tax under its charter.

Trailer Speed Law Defined

Tuscany v. Lieb, Ohio Court of Appeals

PROVISION limiting speed: "For motor vehicles drawing more than one trailer or one semi-trailer, twelve miles an hour" was interpreted by the Court not to apply to a truck tractor drawing a semi-trailer. "More than" modifies "semi-trailer" as well as "trailer," the Court held.

Insurance Carrier's Status

Cannon Ball Motor Freight Lines et al. v. Grasso, et al., Texas Court of Civil Appeals.

PERSON injured by the negligence of a truck operator may not join the insurance carrier of defendant trucker in the original action for damages unless the trucker shall abandon his permit or certificate and leave the state (Section 13, Art. 911b, Vernon's Annotated Statutes, 1929). The fact that carrier must file casualty insurance policy before it can secure a certificate to operate does not alter this situation.

Overloading Not Liability

Zabinski v. Novak et al., Supreme Court of Wisconsin.

TRUCKER is not liable for overloading, if there is no casual connection between the overloading, and an injury to a person riding in another automobile.

Plaintiff brought an action for damages for injuries sustained when the car in which he was riding, ran into a ditch in attempting to pass defendant's truck. Plaintiff had succeeded in passing the defendant's truck, but due to skidding, the car ran into a ditch.

Brockway's Trio of Models Has Five Forward Speeds

High-compression engines and full-floating rears also features of jobs

Model 100 is rated 15,000 lb. gross vehicle weight.

Model 150, rated at 18,500 lb. is equipped with 8.25/20 tires, single front, dual rear but 9.00/20s are available at extra cost. The de luxe cab is furnished with safety glass throughout.

THE Brockway plant at Cortland, N. Y., is in active production of three new models which embody six cylinder high compression engines, five speed transmissions, bevel gear drive full-floating rear axles and hydraulic brakes.

Model 100, rated at 15,000 lb. gross, is powered by a Continental 28 B engine with six cylinders 3⅜ x 4⅝ in. providing piston displacement of 248 cu. in. Maximum hp. is 80 at 3200 r.p.m. and maximum torque 170 ft. lb. at 1200 r.p.m. This model is furnished in standard wheelbase of 168 in. and specials ranging from 137 to 186 in.

Model 150, like Model 160, is driven by a Continental 32B engine developing maximum hp. of 90 at 2500 r.p.m. and torque of 240 ft. lb. at 1000 r.p.m. Cylinders measure 4⅛ x 4½ in. Wheelbases are 138, 156, 170, 188 (standard) and 200 in. Gross weight rating is 18,500 lb.

With wheelbases and engine the same as Model 150, the new Model 160 carries gross weight rating of 21,000 lb.

Although all the rear axles are of full-floating bevel gear type and of Timken make a different model is used on each truck model. Model 100 uses a 54300 axle with drive and torque through the springs. Model 150 a 56200 axle with torque through the springs and drive by radius rods and Model 160 embodies a 58205 axle also with torque taken by the springs and drive by radius rods. Front axle of Model 100 is a Shuler 15582 B-13, of model 150 a Columbia 5500-A-7, of model 160 a Columbia 5500-A-9.

All three models incorporate Air Maze air cleaners, Spicer propeller shafts, G & O radiators, Ross steering gears and Budd disk wheels.

Frame side rails measure 7 7/16 x 2½ x 7/32 in. on Model 100, 7½ x 3 x ¼ on Model 150 and 8 x 3 x ¼ in. on Model 160. Two stage semi-elliptic springs carry rear loads; lengths and widths are: Model 100, 52 x 2½. Moleds 150 and 160 54 x 3in., the former having fifteen leaves and the latter seventeen.

Service brakes are four-wheel hydraulic on the three models, Models 150 and 160 having master cylinders actuated by vacuum power cylinders. Front brakes of the three models measure 16 x 2¼ in. Rear brakes of Models 100 and 150 are 16 x 3½ in. and those on Model 160 are 17¼ x 4 in. Hand brakes are ventilated disk type operating on the propeller shaft.

The de luxe cab which is offered as extra equipment is equipped with safety glass throughout, automatic windshield wiper and air-bound cushions.

Major Specifications

Model	100	150	160
G.V.W. lb.	15,000	18,500	21,500
Wheelbase	168 in.	188 in.	188 in.
Tires, std.	7.50/20	8.25/20	9.00/20
spec.	8.25/20	9.00/20	9.75/20
Engine	Continental 28B	Continental 32B	Continental 32B
Cyls.	3⅜ x 4⅝	4⅛ x 4½	4⅛ x 4½
Displ.	248	360	360

All models include six cylinder engines, five speed unit mounted transmissions, full floating bevel gear drive rear axles, hydraulic four wheel brakes, single front and dual rear tires.

Speaking of Regulation

(CONTINUED FROM PAGE 9)

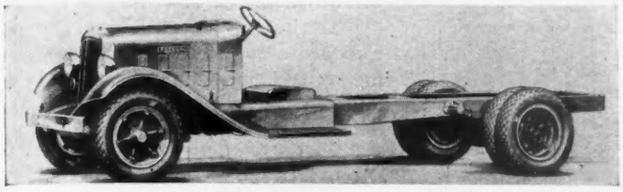
regular routes. The Railroad Commission has jurisdiction over the rates of this class of carrier under a Constitutional provision, but has never exercised this power.

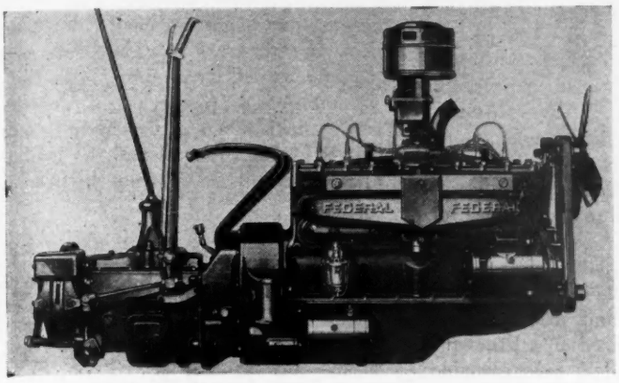
3. Highway Contract Hauler: No regulation of any kind applies to this class of carrier and can only be regulated through the regulation of the highways in the State.

The trucks under Class 1 are under the same regulation as the Railroads and Inland Water Vessels and because of this regulation find their competitors in Class 2 and Class 3 unduly advantaged.

The same situation exists throughout the United States and in some respects the problem is interstate as well as intrastate.

The only answer to the vexing problem is through proper regulatory measures State and Federal, or by invoking aid of the National Industrial Recovery Law create "A fair field and no favor in which economic competition will decide the question of survival."





At top. Model 15A, Federal's new 1½-tonner, like its companions, carries sloping radiator, three ventilator cowl and heavier frame. Above Hercules Engine and Clark 5 speed transmission in Model 25 A.

Federal Puts Out 3 New Models to Replace Seven

The 2-ton and 2½-ton are tagged with lower prices. Tonner is $695

COMPLETE SPECIFICATIONS ON PAGE 42

THREE new six-cylinder models in the lower tonnage ranges of the Federal line replace the former fast-moving E-4, F-8, A-6 and A-6T models. With their advent the D-4 four-cylinder 1½ ton, the G-5 two tonner, and the A-6TW are also dropped.

The three models are the 15A, 1½ ton, the 20A two tonner, and the 25A 2½ ton model. Price of the 1½ ton, $695 for the chassis is unchanged, on the other models prices are lower at $1,095 for the two ton and $1,395 for the 2½ ton chassis.

Larger Hercules engines are employed. The three engines are similar in design, governed at 2600 r.p.m. Crankshafts are carried in seven bearings. Cylinders are 3⅜ x 4¼ in 15A, 3⅝ x 4¼ in 20A and 3¾ x 4¼ in. in model 25A.

In the design of the new models particular attention has been given to reducting maintenance, particularly lubrication, and to eliminating vibration and noise as part of a program to secure added driver comfort. Twelve spring lubrication points have been eliminated by mounting the fixed ends in rubber bushings, shackling front ends of front springs also in rubber and adopting the floating type of support for rear ends of rear springs as on the larger Federal models as shown in illustration at bottom of the page.

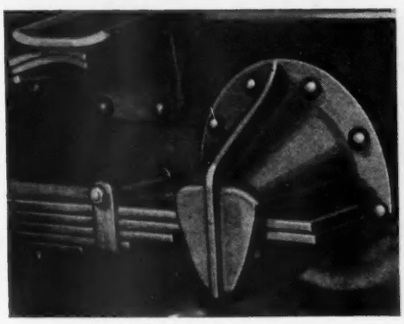
The universal joints of Spicer needle roller bearing type require little attention.

Vibration and noise have been reduced in a number of different ways. In the first place, engines are rubber mounted at three points. A single trunnion at the front end is carried in a rubber ring which is locked under compression in turn, in a frame cross-member bracket. At the rear, there are two bonded rubber plate type supports. The rear engine arms are piloted top and bottom by ears on the mounting plate, providing a frame cross-member effect.

Larger radiator cores are provided and a deflector baffle in the top header tank extends almost the entire width of radiator directing the incoming water into the core. The over-flow is provided with a shield to guard against unnecessary loss of water.

A combination air cleaner and intake silencer is mounted on the downdraft Carter carburetor. Earl Winans, Chief Engineer of Federal, states that by properly shaping of connecting pipe between the silencer and carburetor the horsepower has been increased.

Cabs have been lowered some 2 in., largely by lowering the fuel tank between the side rails instead of locating it on top of the frame. The fuel tanks are larger and are now filled from the outside of the cab.



Rear ends of rear springs slide in brackets on the three new models.

Powerplants are set at a 1½ deg. angle in the frame to reduce the drive line angle and angular loads on universal joints. Clutches incorporate coil spring vibration dampers.

Transmissions on models 15A and 20A are similar to former units. The 25A however has a five-speed Clark transmission with two pairs of helical silent gears similar in design to the unit used in the 3-ton A-7 model.

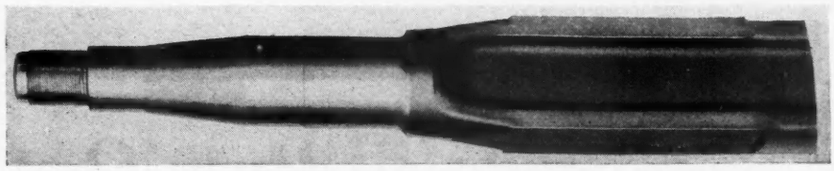
Rear axles on the 15A and 20A are also similar to those previously used in the same tonnage classification, while the 25A has a Clark 640 of higher capacity and similar to that used in the A-7 except for gears. All are of full-floating bevel gear type.

Brakes are hydraulic on all three models and brake drums are now of cast iron. The 2½ ton 25A carries a Tru-Stop hand brake at the rear of the transmission.

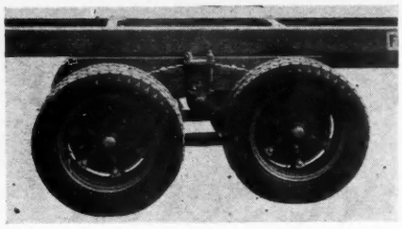
Frames on all three models measure 8½ x 2⅞ x 7/32 compared with 6 in. side rails on previous models. Running boards are carried on outriggers that extend from side to side underneath the frame.

Clark metal spoke wheels are used on the new models with demountable wheels also available. The 20A and 25A carry rear helper springs as standard equipment. They are available at extra cost on the 15A.

All three of the new models are available in wheelbases of 137, 153, 162 and 174 in. In addition the 20A and 25A come in 187 in. and the 25A is further available on a 201 in. wheelbase.



Spindle and beam are forged from one piece of alloy steel



The new tandem axle semi-trailer is rated to carry 7-10 tons

Fruehauf Presents Four New Developments

FRUEHAUF presents four new developments at the same time, to wit: a forged I-beam axle, a tandem axle semi-trailer, a new type bearing for the steering circle of four-wheel trailers and a semi-trailer for local deliveries of 3.2 liquid.

The new axle including beam and spindles is drop forged from one piece of chrome-molybdenum steel and weight and thickness are varied to provide strength in proportion to stress throughout its length, thus reducing deflection to a minimum without excess weight. The axle is cambered to conform to the average road crown and to compensate for load deflection.

Rated at 7-10 tons, the tandem axle semi-trailer is available in either manual or automatic types and priced at the lowest figure ever placed on a Fruehauf tandem model. Tandem axles provide easier riding qualities but, in addition, the extra axle is looked upon favorably by states restricting loads on an axle basis rather than gross weight per vehicle. Brakes are supplied for the four wheels of the tandem semi-trailer.

Circle steering mechanisms (which steer a four-wheel trailer like a wagon rather than by steering knuckles as in motor vehicles) require lubrication. On the Fruehauf the new bearing is made of "Oiltite" metal, developed by the Chrysler Corp., which is a self-lubricating bronze composition. The metal contains 35 per cent of oil by volume and the lubricant requires replenishing only once or twice a year.

Pulled by a 1½-ton truck the new Fruehauf beer semi-trailer carries 180 cases. Two doors on each side of the body give access to front and rear compartments, each containing 84 cases. Six more cases are carried on each side in the skirt. The trailer body is only 8 ft. 8 in. high overall and the loading platform is only 42 in. from the ground.

Hudson Uses Essex for Commercial Line

THE Hudson Motor Car Co., undaunted by the lack of success which accompanied its previous efforts with the Dover, is back in the commercial car field with a much more appealing line of commercial jobs on the Essex Terraplane chassis.

List prices are as follows: Sedan delivery, $545; standard panel, $530; cab pickup, $440, and chassis, $375. Wheelbase is 106 in. Each body model has a capacity rating of 1000 lb.

The Terraplane powerplant is used. The engine is a 6-cylinder L-head with bore and stroke of 2 15/16 x 4¾. Its brake horsepower rating is 70 at 3200 r.p.m. It has a displacement of 193 cu. in. The block is of chromium alloy and pistons are of silicon aluminum. Oil is filtered and cooled. Air-cleaner and intake silencer are standard. The transmission is a heavy-duty synchro-speed with three speeds forward and one reverse.

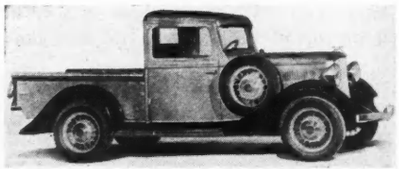
The rear axle is a spiral bevel full-floating. The brakes are four-wheel, two-shoe, low-velocity, Servo Bendix.

The sedan delivery is completely unit-built, with unit-steel welded body. It has a load space 47 in. long, 47½ in. wide and 41 in. high. The rear opening is 33½ in. wide and 36 in. high.

The standard panel delivery is also unit-built with a load space 72 in. long, 48½ in. wide and 50½ in. high. Rear opening is 44⅛ in. wide by 43⅜ in. high.

The load space on the cab pick-up express is 66 in. long, 45 in. wide with 16-in. sides.

Tires on all models are 17 x 5.50 on heavy-duty wheels.



Essex cab pick-up, $440

Essex standard panel, $530

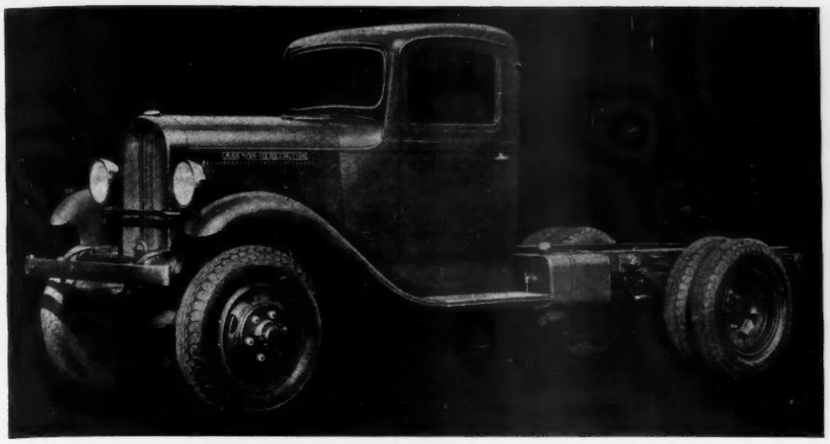
MARMON-RANGE

ALL wheels are driving wheels in the complete new line of four and six-wheel trucks which the Marmon-Herrington Co., Inc., is presenting. Comprising 21 models ranging in capacity from 1½ to 20 tons the line is divided into four series of models, two of the series, the A group including capacities from 1½ to 4 tons and the diesel engine group are brand new and the other two series are improved and refined models of the previous series.

Range of capacity of the line has been extended both upward and downward. Boundary models in the line are the new A10-4 1½-ton four-wheel drive unit listing at $2,250, the lowest of any four-wheel drive chassis listed in C.C.J. Specifications Table and the TH 330-6 a six wheeler rated to carry 20 tons.

All of the new models have certain features in common, in addition to driving on all wheels. Front axles are of single or double gear reduction type with constant velocity type universals at the knuckles permitting 30 deg. turning angle. Auxiliary transmissions of either two or three speeds, mounted amidships, and unit mounted four or five-speed main transmissions are employed throughout. No center differential is fitted on any model. Single front and dual rear tires, Zenith carburetors, Delco-Remy electrical equipment, Ross steering gears, Hercules six-cylinder engines and Young radiators also are incorporated in all models.

Five smaller four-wheel drive models comprise the new A series. Four have bevel gear axles, the fifth uses double



Cab is included in standard equipment of the new 1½-tonner listing at $2,250

HERRINGTON EXTENDS WITH 21-MODEL LINE

All wheels are driven in new set-up which includes four-wheel and six-wheel models from 1½ to 20 tons

reduction. The A10-4, rated 1½ tons, is powered by a 3⅜ x 4¼ in. engine of 228 cu. in. displacement. Main transmission is a four-speed Warner Gear and the auxiliary the company's own providing a direct drive and a 1.95 reduction. Hydraulic brakes on four wheels and a band type hand brake are supplied. Unusual is inclusion of the cab with standard equipment.

Next in the A series is Model 20-4 with capacity of 3½ tons and price of $3,150. Major units are JXC 3¾ x 4¼ in. 282 cu. in. engine, Clark five-speed transmission with Marmon-Herrington A auxiliary with ratios as in Model A10-4 and Timken-Wisconsin-Herrington front and rear axles.

Model A30-4, third of the As, is rated 3½ tons. It embodies a WXC 4 x 4½ in. 339 cu. in. engine, five-speed Clark transmission, Merum-Herrington No. 1 auxiliary, with direct and 2.44 reduction, and Timken-Wisconsin-Herrington single reduction axles. The hydraulic brakes are actuated by a vacuum power cylinder.

Both A40-4 and A50-4 which are rated at 4 tons are driven by the same type engine, a WXC3 4¼ x 4½ in. displacing 383 cu. in. and employ the same transmission combination, Fuller five-speed 5-A-380s and Marmon-Herrington No. 1 auxiliaries. The A40-4 is characterized by use of Timken-Wisconsin-Herrington single reduction front and rear axles and hydraulic brakes with vacuum power cylinder. Model A50-4 differs in having Marmon-Herrington-Wisconsin double reduction front and rear axles and Westinghouse air brakes on rear wheels, effective through the drive line on all four wheels.

The new TH series is made up of six four-wheel models, one more than the former TH group, the additional Model being TH315-4. All of these six models are listed with Westinghouse air brakes on two rear wheels, which are effective on the four wheels through the drive.

Model TH300-4 derives its power from a YXC4⅜ x 4¾ in. engine of 428 cu. in. displacement. Transmission is the same as that of Models A40 and A50, Fuller 5-A-380 and front and rear axles are double reduction Marmon-Herrington-Wisconsins. Capacity is 4½ tons.

Bore of the YXC3 engine in Model TH310-4 is ¼ in. larger than the engine in the TH300-4 job. Displacement is 478 cu. in. and hp. 104 at 2200 r.p.m. Transmission setup includes a five-speed Fuller VUOG and Marmon-Herrington No. 2 auxiliary with direct and 2.55 reduction. Axles are double reduction Marmon-Herrington-Wisconsins. Capacity of this model is 5 tons.

The companion Model TH310A-4 has a larger engine, with the same bore 4⅝ as the TH310 engine but the stroke is 5¼ in. instead of 4¾ in. Piston displacement, therefore, is increased to 529 cu. in. and power output to 114 hp. at 2200 r.p.m. Tires are 9.75 in. section, as on TH310 but wheels are 22 in. instead of 20 in. Rating is 6 tons.

With tonnage rating of 7 and gross weight listing of 27,950 lb. Model TH-315-4 is equipped with 10.50/20 tires (10.50/24 optional at extra cost) a 5 x 6 707 cu. in. 150 hp. engine, four-speed Brown-Lipe 724 unit-mounted main transmission and No. 2A Marmon-Herrington three speed auxiliary, the latter providing reduction of 2.05 or 2.55 as chosen, direct and an overdrive of .75 to 1. Axles are Marmon-Herrington-Wisconsin double reduction type.

Model TH320-4 is listed with 8 ton payload capacity and 33,200 lb. gross. Tires are 10.50/24. The engine is a 5¼ x 6 in. HXC developing 164 hp. at 2000 r.p.m. Transmission is another of the Brown-Lipe four-speed series, a 724, and the auxiliary a Marmon-Herrington No. 3 incorporating, in addition to high of 1.025, a reduction of 2.94 and a .739 overdrive. Axles are of the same type as those in Model TH315.

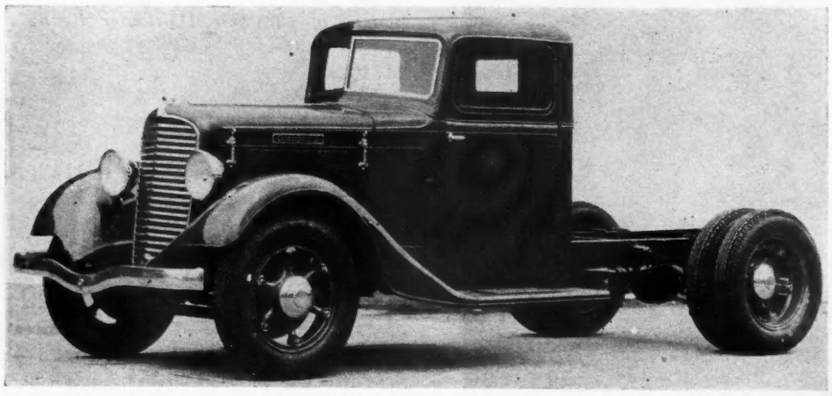
Largest of the four-wheelers is Model TH330-4 rolling on 11.25/24 tires with payload of 9 tons and total gross of 35,-920 lb. Some 550 ft. lb. of torque is generated by its 5½ x 6 in. 855 cu. in. engine and this force is applied through a Brown-Lipe four-speed 734 transmission and a M-H 3A auxiliary.

The four six-wheelers are related to four of the TH series four-wheelers, namely; 310A, 315, 320 and 330. They are distinguished by the number 6 following the model number and all drive on all six wheels.

Tonnage ratings and gross weights are higher than those of the companion four-wheelers. Model TH310A-6, for illustration is rated 10 tons compared with 6 tons for its four-wheel partner. Its gross weight rating is 37,070 lb. Next in the series is TH315-6, rated 12 tons and 42,420 lb. gross, followed by TH-320-6 with payload capacity of 15 tons.

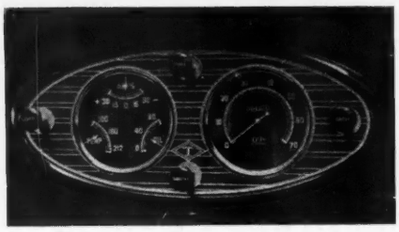
Model TH330-6, the largest in the line, is no light delivery job, as even a hurried glance at specifications will disclose. The chassis weighs 100 lb. more than 10 tons, the makers allow 2 tons for the body and 20 tons for payload.

Hercules diesel engines are offered in place of gasoline engines at additional list price of $1,950 in six models, the four-wheel TH315-4, 320-4 and 330-4 and three six-wheelers, the corresponding TH315-6, TH320-6 and TH330-6. Complete specifications will be found on page 44.



Left—Flowing lines and V-shapes distinguish the style of Diamond T's new 1½-tonner, the first of a new series which will go to 3 tons

Below—Three pointers on one dial and a pointer type speedometer comprise the instruments on the new Model 211



Diamond T Tags 1½-ton De Luxe Job $595

DIAMOND T's new de luxe 1½ tonner is of distinctive appearance and low price, $595, and in addition incorporates unusual mechanical features. It is, according to C. A. Tilt, president of the company, but the first of a new series at unusually low prices which will cover the range to 3 tons.

Sweeping lines, in which V forms are pronounced, characterize style of the new Model, designated 211 SF. Wind resistance has been reduced and vision and comfort improved by the new design. The chrome-plated front bumper is dipped in the center, matching the V-shaped sloping radiator guard, which carries horizontal bars, and the V-shaped windshield. Fenders extend well forward of the radiator and embody deep skirts at the rear, in the 1933 style. Four large rectangular louvers are provided on each side, the rear one ventilating the cab.

Choice of rear axles is offered in the new model, depending upon user's requirements. With single rear tires a semi-floating axle with one-piece housing, double wheel bearings and straddle-mounted pinion is employed. This axle is not furnished with dual tires. When dual rear tires are required a full floating type of rear axle is supplied and the chassis is then designated 211FF.

The new model continues the truck-type design of its predecessor, Model 210, which will be retained in the line at list price of $545. Power is supplied by the Diamond T-Hercules JXA six cylinder 3⅜ x 4¼ in. engine adopted more than a year ago. With piston displacement of 228 cu. in. and torque of 148 lb. ft. the engine has developed better than 80 hp. on test but is rated at 63 hp. at 2800 r.p.m. for truck service. The crankshaft is carried in seven main bearings 2½ in. in diameter. Front end drive is by gear. The water pump may be removed without disturbing other units.

Wheels and brake drums are of the Clark Equipment Co. type with hubs and drums cast in one piece and machined on the same centers. Drums are of cast alloy iron and the shoes also are cast, carrying molded lining. Master cylinder of the Lockheed hydraulic brake system incorporates the supply tank.

Rear springs measure 50 x 2½ in. and four leaf helper springs are included in standard equipment. Both front and rear springs are carried in compression type rubber bushings, the front springs being shackled at the front, instead of at the rear.

A steel cab has been developed for this model with lines blending with the hood and front end of the chassis. Windshield wiper and mirror are supplied with the cab. The spring bar bumper is included in chassis standard equipment.

Standard wheelbase of the new job is 135 in. to accommodate bodies up to 9 ft. in length and special wheelbases of 145 and 158 are available for 11 ft. bodies.

Esco 2-ton Model Is Newcomer in Field

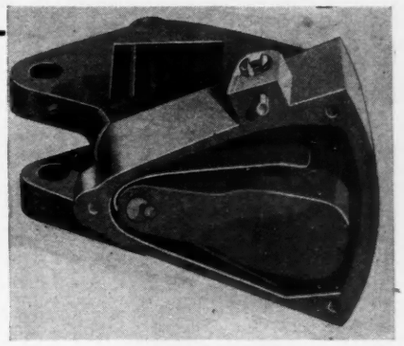
A NEWCOMER in the truck field is the Esco Model 233, manufactured by the Esco Motor Co., Pittsburgh, Pa. Rated at 2 tons this truck embodies an X-braced frame with side rails of chrome manganese heat-treated steel.

Rated carrying capacity is 2-2½ tons, with chassis weight of 5900 lb. and vehicle gross weight rating of 15,000 lb. Major chassis units include: Continental E603 six cylinder 4¼ x 4½ in. engine, 383 cu. in., developing 95 hp. at 2500 r.p.m.; Clark 105R five-speed unit mounted transmission, Clark B642 bevel gear full floating rear axle, and Clark F308 front axle. Brakes are Lockheed four wheel hydraulic with master cylinder actuated by vacuum cylinder. The engine carries Zenith carburetor, Delco-Remy ignition, generator and starter and optional Handy governor. Clutch is a Borg & Beck plate type. Steering gear is by Ross.

Standard wheelbase is 165 in. and maximum wheelbase is 205 in. Tires are 7.50/20 single front and dual rear.

$ALVAGE—*from a Shop Man's Mail*

Being the impressions and reactions of an experienced shop man to new products offered by manufacturers. The editor will gladly put readers in touch with the makers mentioned.



Unique weight-operated governor

A SHOP EQUIPMENT SALESMAN who was in the shop the other day explained, wise-cracking like, the difference between laziness and efficiency. He said that a man who had a job to do and just didn't do it was plain lazy, but a man who had a job to do and figured out some way so it didn't have to be done was efficient.

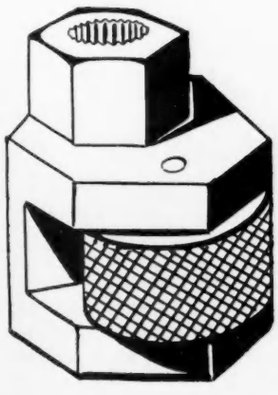
Makers of some of the new tools, gadgets and mechanical contrivances can pat themselves on the back for promoting efficiency because a flock of them sure are turning out things which avoid doing hard jobs.

A Non-Walking Ring File

● Take the Ammco piston ring file, for instance. Ever since the days of the one-lungers mechanics have put rings in cylinders, walked to the bench vise, filed a little, returned to the engine, then back to the bench vise and kept up a relay until the ring finally fit. Now this ring file sticking right up on its edge clamps on a cylinder stud and all the mechanic has to do is rub the ring ends back and forth on the file, right at the engine. Saves shoe leather, rings and fingers. Automotive Maintenance Machinery Co. "efficiencied" that job.

No More Crawling

● Two concerns crave to eliminate crawling under a truck to drain oil, or running the job over a pit. Crane Packing Co. proposes to ease the operation by a piston-type valve which is screwed in the oil pan in place of the drain plug and opened by a handle under the hood working through a flexible cable. Economy Oil Drain Co. puts a price of $1.50 on its remote control drain valve and offers samples for Fords, Chevrolets or Plymouths for half that price. The Economy control has a key to work the valve which takes the place of the drain plug.



National stud remover has knurled roller and center hole

A Dry Water Pump

● Another company has decided to eliminate another job which crops up strong in the winter, but is with us always—meaning packing water pumps. Almetal Universal Joint Co. avoids troubles with pump packing by making a pump which has no packing and which it guarantees to replace free of charge if it leaks within 100,000 miles. Water is sealed by ground and lapped parts. The pump needs lubricating only once a year. List prices run from $4.50 to $11.

Earth Operated Governor

● If anything ever happens to the force of gravity we won't be worrying about trucks, so A. B. Conrad, maker of the Unique governor for engines, uses a weight instead of springs to close the valve on his governor. There is a flat spring to cushion the weight at ends of its travel. He cramps the style of the "Houdini" drivers by sealing the adjusting screw with a taper pin sawed off flush. There are four sizes for either updraft or downdraft carburetors.

Making Oversizes from Standards

● When a brake drum is machined oversize to get rid of scores and grooves the mechanic has to hunt up thicker lining in most cases. Sometimes he can't lay his hands on the right size instantly. United States Asbestos Division of Raybestos-Manhattan, Inc., tells him not to look for thicker lining but to use its Brak-Shim between standard lining and the brake shoes. The shim comes in 100-ft. rolls, eight pieces 12½ ft. long. Thickness is 0.025 in.

Plug Tells On Carburetor

● Visiting a fleet shop the other day the writer found the foreman looking under the hood of a truck with the engine running. The writer looked, too, and saw four plugs which seemed to be made of glass. Every time a cylinder fired there was a flash of blue in the plug. "Using them instead of wooden handled screwdrivers?" "Using them to adjust the carburetor," the foreman said. Then he explained that the plugs not only show misses but whether the mixture is rich or lean, blue color in the flash shows a good mixture, yellow or orange a rich mixture. He gave me the name of the makers, Prismatic Plug Corp. of America.

A Useful Sand Storm

● Taking spark plugs apart and scraping them with dull penknives or hack saw blades don't appeal to Parkin, Inc., Cleveland. They are making a cleaner which sand blasts the plugs clean without taking them apart. A jet of air from the shop line sucks sand out of a box and blows it against the plug, sand meanwhile drops down into a bag like a vacuum sweeper.

Spare the Stud

● Chewing up studs with pipe wrenches is common practice in some shops. To remove or put in studs easier National Machine & Tool Co. is making a tool with a knurled hole which slips over the stud and a knurled eccentric roller which grips the stud. The stud is then screwed out with a 15/16 hex socket wrench. The price is $1.80 The same company is making a die for straightening up battered threads on axle shafts and propeller shafts, which has five sizes in the same tool.

For Valve Benders

● Shops having anything to do with tires, which means all shops, will find out that the 1933 Year Book of the Tire & Rim Association contains a lot of new facts about commercial vehicle tires. The load and inflation table and dual spacings are in, as usual, but there are eight pages about tire valves, including a standard for the new convertible valves.

For Parts Men

● Simmons Mfg. Co. has just issued a new catalog, No. 110, of service parts for Fords and Chevrolets.

Crane remote-control oil drain

POST SCRIPTS

Comments from Readers of Commercial Car Journal

AN ADVERTISING HINT

IN looking over some old issues of your Journal I noticed an article on reclaimed oil (November, 1932). It was a very interesting article and, as I am in the business of reclaiming oil, I would like to ask a favor.

Would it be possible for you to send me a list of names and addresses of firms manufacturing these reclaiming machines. I am at present using a ——— machine, but would like to know of others that may do as good or possibly better work. Your paper does not carry any advertisements covering these machines so I would appreciate any information which you would be able to give.

I am re-refining oil on a commercial scale and your article has proven itself.—*N. H. Schaefer, Manager, Duluth Oil Refinery, Duluth, Minn.*

AN ASSIST FOR COLLINS

MR. COLLINS' article in the May COMMERCIAL CAR JOURNAL is an intensely interesting study of the truck retirement problem.

Like all other fleet operators, we are faced with this question, but it has never been dealt with in a uniform way up to the present time by the Eastman Kodak Co.

We shall be very much interested to follow the discussion in the COMMERCIAL CAR JOURNAL.—*C. F. Bullard, Material Standards Department, Eastman Kodak Co.*

AN AUTHOR EXPLAINS

I THINK you did a very good job on my article ("Drivers and Maintenance Are Keys to Lower Gasoline Costs," page 13, June, 1933), and I was pleased with the way you have been able to condense it.

However, there was just one point that might be confusing, and I am probably myself responsible for not stating it more clearly in the figures I presented to you.

That has to do with Fig. 1 on Page 14. The figures for gasoline consumption under "Idling," are actually in gallons per hour, in distinction to those under the first, second, and high speed columns, where the gasoline is the actual gallons consumed in the time stated, namely, 2 min., 2 min., and 1¾ min. respectively. It would have been better had I employed the same unit of measure under the "Idling" column also, in which case the actual figure, instead of .34 gals, per hour, would have been .1 gal. in 17¼ min. Your explanation under that table would then have to have the words "Per Hour" deleted.

Believing that this might cause some confusion to some of the readers, and that you would be questioned concerning the apparent inaccuracy in the comments, as compared with the tabulation, I thought it would be well to give you the actual facts. —*Clinton Brettell, Garage Superintendent, R. H. Macy & Co., Inc., New York City.*

PAGING MR. JONES!

THE article by C. L. Jones in your June issue was the most interesting thing of its kind I've seen in any trade paper in a long time. It was well written, and had the facts about right, popular and fleet owner opinion to the contrary.

Simple non-technical facts of the kind he gave, rather than "bromides" and technical papers on how to take a truck driver and make a super-intelligent paragon out of him, are the kind that will save money for the fleet owner.

Try and get Mr. Jones to do a paper on the housing end of the business.—*E. W. Malley, North Terminal Garage Co., Boston, Mass.*

PRAISE, INDEED

IN commenting on this splendid magazine, want to say that there is considerable food for thought and real meat in your *Commercial Car Journal*. It is splendidly done from an appearance standpoint as well as in regard to the technical items that appear.—*L. J. Kanitz, General Sales Manager, Continental Motors Corp., Detroit, Mich.*

A HOTCAKE WITH HONEY

IF it isn't too much a cold pancake add me as liking the new reading jacket.—*Billie Burgan, Hage's Ice Cream Co., San Diego, Calif.*

BRING ON THE LAW BOOK

ON page 23 of the June, 1933 issue of the *Commercial Car Journal*, under the heading of "In a Black and Blue Binding?" you state that the National Highway Users Conference is planning to digest all motor vehicle laws and to publish several pamphlets or booklets carrying information which will be a digest of every motor vehicle law in the United States.

We are very much interested in this matter, and would appreciate it very much if a copy is forwarded to us when they are completed.

We feel that this would be a very good service to the truck operators, and it might be a good idea to furnish these in loose-leaf form, so that when laws are changed, a supplement can be sent out to the different truck operators who subscribed for this book, so that the records of the operator, in so far as motor laws are concerned, will be up to date at all time.—G. A. *Witzofsky, Sec. & Treas., Anderson Motor Service Co., St. Louis, Mo.*

A FARM RELIEF ITEM

I WISH to state that the COMMERCIAL CAR JOURNAL has lived up to my expectations entirely and I have derived considerable valuable information from it. You can be sure I boost it highly to those interested in the truck field. I am hoping to see more articles on the relationship of motor transportation to the farmer, as that happens to be my field.—*A. L. Smith, Jr., East Cleveland, Ohio.*

FACTS ARE OUR FODDER

YOUR article on "The Freight Brokerage Racket and Its Victims" (page 19, May, 1933) was very good.

I read your magazine every month and get a lot of real good facts from it.—*Frank W. Conley, Trucking, Penn Yan, N. Y.*

"TORQUEING" ABOUT POWER

MORE power to Commercial Car Journal.—*B. E. Karges, Sales Promotion Manager, Hercules Products, Inc., Evansville, Ind.*

COMMERCIAL CAR JOURNAL

NEWS

Chevrolet Has New Pay Plans

Chevrolet is presenting three new plans for compensating retail salesmen in its dealer organization. All three proposals are reported to be directed at raising the total compensation to salesmen to six per cent of combined used-car volume and new car sales at list prices. It is also understood that the company is desirous of having dealers credit a commission on house sales to the salesmen's account; in fact, at least two of the plans provide for this directly. Two of the plans provide also for creating a salesmen's reserve which is disbursed in equal payments in November, December and January.

Ford Reconditioning Grows

Ford Motor Co.'s engine recondition and exchange plan which has been in effect for two months has developed to a point where about 650 engines per day are handled. The great majority are four-cylinder engines on which the exchange price is $37.50 plus freight. On the eights the price is $40 plus freight with all prices slightly higher on West Coast. The net price to fleet owners, who remove and replace engines, is $28 on the four and $30 on the eight.

Road Funds Apportioned

Acting Secretary of Agriculture R. G. Tugwell has apportioned the $400,000,000 appropriated by the National Industrial Recovery Act for expenditure on highway construction. The money became available for expenditure July 1.

Fuel Blend Inefficient

Road tests with a fuel containing 10 per cent alcohol developed that the blend is nearly 5 per cent less efficient than regular gasoline, while the laboratory tests showed heavier fuel consumption when the blended fuel was used and also that its use required a richer flow for acceleration. The tests were conducted by the A.A.A. Contest Board and the U. S. Bureau of Standards.

Joint Trade Show

A joint trade show will be held again this year under the sponsorship of the Motor & Equipment Manufacturers Association, the Motor & Equipment Wholesalers Association and the National Standard Parts Association, as a result of an agreement. It will be held in the Merchandise Mart, Chicago, the week of October 29.

Vehicle Officials Unite

Uniform traffic regulations for the United States and Canada will be the major objective of the American Conference of Motor Vehicle Administrators formed at the closing session of a conference of motor vehicle commissioners. E. Austin Baughman, of Baltimore, was named temporary chairman.

Timken Ups Wages 11.11 Per Cent

Effective July 1, Timken Roller Bearing Co. increased wages 11.11 per cent. Company employment increased from 1700 in March to 4000.

Rockwell Heads Timken

Col. H. W. Alden, chairman of the board of Timken Detroit Axle, has announced the election of the following officials: Willard F. Rockwell, president; Walter F. Rockwell, vice-president and director; R. J. Goldie, assistant to president and also elected to the board; R. L. Busse, vice-president in charge of sales, and W. C. Wood, who continues as secretary-treasurer.

Klemm Company Expands

Klemm Automotive Products Co. anannounces it has moved into a larger factory, located at 2533-37 N. Ashland Ave., Chicago. Much new machinery and additional factory employees have been added.

Fruehauf Names Two

Fruehauf Trailer Co., Detroit, has appointed Herman Nickell, Little Rock, Ark., and W. B. MacLin, Memphis, Tenn., as distributors.

Furling with Thornton

Don F. Furlong has been appointed general sales manager of the Thornton Tandem Co. of Detroit, manufacturer of a dual-ratio positive four-rear-wheel drive unit for trucks. Mr. Furlong was in charge of the commercial car and truck sales division of the Dearborn branch of Ford Motor Co.

Cleary Resigns from White

J. M. Cleary has resigned as president of The White Co. due to ill health. Mr. Cleary recently underwent an operation. His condition is reported as improved.

Corbett Under Knife

Sidney Corbett, assistant sales manager of the truck division, Chevrolet Motor Co., underwent an operation for a blood clot on the spine.

Tommy Horrocks Resigns

T. A. Horrocks has resigned as executive secretary of the Minnesota Truck Owners Association. He has purchased the insurance division of the association, good-will, assets, liabilities, etc., and will assume its management.

A C Has Best Month

A C Spark Plug Co. has reported a substantial increase in employment, unfilled orders, production and sales during the month of June. Production even exceeded the peak month of June, 1929. June sales in dollars increased 104 per cent over June a year ago and 20 per cent over May this year.

Westinghouse Gives 5 Per Cent

Notice of an immediate 5 per cent raise in salaries and wages has been received in all offices, works and subsidiary companies of the Westinghouse Electric & Manufacturing Co.

Stehr Moves to Detroit

The Stehr Piston Ring Co., of San Diego, Calif., has decided to establish manufacturing headquarters in Detroit. The company manufactures a multiple segment, laminated ring.

Dump Truckers Organize

Dump truck owners of Maryland have formed their own organization under the name of the Maryland Dump Truck Owners Association of Maryland. Robert J. Cremens is president and Charles F. Goldberg, secretary.

Albert Russel Erskine

Albert Russel Erskine, president of the Studebaker Corp., and long a prominent figure in the automotive industry, died by his own hand at his South Bend, Ind., home on July 1. He was 62 years old.

Mr. Erskine became treasurer and a member of the executive committee of Studebaker in 1911 and in 1915 assumed the presidency. Under his leadership, the corporation became a major factor in the industry.

COMMERCIAL CAR JOURNAL'S

CORRECTIONS ARE MADE EACH MONTH FROM DATA SUPPLIED DIRECT BY TRUCK MAKERS

Line Number	MAKE AND MODEL	GENERAL (See Keynote) Tonnage Rating	Chassis Price	Standard Wheelbase	Max. W. B. Furnished	Gross Vehicle Weight	Chassis Wt. (Stripped)	TIRE SIZE Front	TIRE SIZE Rear	MAJOR UNITS ENGINE Make and Model	ENGINE No. of Cylinders Bore and Stroke	TRANSMISSION Make and Model	TRANSMISSION Location and Forward Speeds	TRANSMISSION Aux. Location and Speeds	REAR AXLE Make and Model	REAR AXLE Gear and Type	REAR AXLE Drive and Torque	REAR AXLE GEAR RATIOS In High	REAR AXLE GEAR RATIOS In Low	FRAME Side Rail Dimensions	FRAME Type
1	A.C.F. 160	6	6950	186	222	26000	10170	B9.75/22	B9.75/22	HaS 160	6-4¼x5½	BL 1714	U 4	Op	Tim 76730	2F	R	7.46	52.7	8x3	P
2	175B	6½	8300	186	222	26000	10750	B10.50/22	B10.50/22	HaS 175	6-5x6	BL 714	U 4	Op	Tim 76730	2F	R	7.46	38.6	8x3	P
3	175A	7½	8800	186	240	30000	11610	B10.50/24	B10.50/24	HaS 175	6-5x6	BL 714	U 4	Op	Tim 79730	2F	R	7.48	38.7	8x3	P
4	Armleder 11Ha	2-3	1570	156	195	11500	4070	B7.00/20	DB7.00/20	Con 16C	6-3⅜x4⅝	Fu WOBB	U 4	No	Tim		BF	H 5.83	31.2	6x3x¼	P
5	21Ha	2½-4	2185	160	207	15300	4783	B8.25/20	DB8.25/20	Her WXB	6-3¾x4½	Fu MLU	U 4	No	Tim		BF	H 6.06	38.5	6x3x¼	P
6	31Ha	3½-5	2745	146	213	19500	5838	B9.00/20	DB9.00/20	Her WXC	6-4x4½	Fu MGU	U 4	No	Tim		BF	H 6.02	39.2	7x3x¼	P
7	41Ha	4-5½	3050	160	227	23000	6600	B9.75/20	DB9.75/20	Her WXC	6-4x4½	Fu MGU	U 4	No	Tim		BF	H 6.83	43.8	7x3x¼	P
8	61Ha	5-7	3625	146	227	24000	7400	B9.75/20	DB9.75/20	Her WXC2	6-4½x4½	Fu MGU	U 4	No	Tim		WF	R 8.5	55.2	8¼x3x⅜	P
9	71Ha	7-9	4595	164	235	29500	7800	B10.50/20	DB10.50/20	Her YXC	6-4½x4¾	Fu VUOG	U 5	No	Tim		WF	R 8.5	55.2	8¼x3x⅜	P
10	TRDA 10		3895	148	174	39000	6450	B9.75/20	DB9.75/20	Her YXC3	6-4¾x4¾	Fu VUOG	U 5	No	Wis		2F	R 7.8	56.8	7x3x¼	T
11	Autocar R	1½	2250	159	189	.....	5370	B7.00/20	DB7.00/20	Own R	6-3¾x4¾	BL 234	U 4	No	Own A		8F	H 5.22	33.5	6½x3x⅜	T
12	RF	2	2450	159	189	.....	5750	B8.25/20	DB8.25/20	Own R	6-3¾x4¾	Own T	U 4	No	Own A		8F	H 5.22	33.0	6½x3x⅜	T
13	RG	2½	2600	159	210	.....	5975	P34x7	DP34x7	Own R	6-3¾x4¾	Own T	U 4	No	Own D		2F	H 6.21	39.3	8x3x¼	T
14	A	2½	3000	150	192	.....	6060	B8.25/20	DB8.25/20	Own SD	6-4x4¾	Own T	U 4	No	Own A		8F	H 5.22	33.0	8x3x¼	T
15	D	3	3500	150	192	.....	6100	P34x7	DP34x7	Own SD	6-4x4¾	Own T	U 4	No	Own D		2F	H 6.21	39.3	8x3x¼	T
16	DE	3½	3850	150	210	.....	6675	B9.00/20	DB9.00/20	Own SD	6-4x4¾	Own T	U 4	No	Own TE		2F	H 6.43	40.7	8x3x¼	T
17	DF	3½	3950	150	192	.....	6865	B9.00/20	DB9.00/20	Own SD	6-4x4¾	Own T	U 4	No	Own TE		2F	H 6.43	40.7	8x3x¼	T
18	DH	4	4150	150	174	.....	7250	P36x8	DP36x8	Own SD	6-4x4¾	Own T	U 4	No	Own N		2F	H 8.57	54.3	8x3x¼	T
19	N	4	4600	191	227	.....	8090	B9.75/20	DB9.75/20	Own SCH	6-4¼x4¾	Own T	U 4	No	Own N		2F	H 7.20	45.6	9x3x¼	T
20	NE	5	4725	149	170	.....	8300	B9.75/22	DB9.75/22	Own SCH	6-4¼x4¾	Own D	U 5	No	Own C		2F	H 8.57	50.1	8x3x¼	T
21	NF	5	4800	191	227	.....	8350	B9.75/22	DB9.75/22	Own SCH	6-4¼x4¾	Own D	U 5	No	Own C		2F	H 7.20	42.1	9x3x¼	T
22	NH	5	4925	149	170	.....	8440	B9.75/22	DB9.75/22	Own SCM	6-4½x4¾	Own D	U 5	No	Own C		2F	H 8.57	50.1	8x3x¼	T
23	S	5	5500	158	168	.....	8800	B9.75/22	DB9.75/22	Own SCH	6-4¼x4¾	Own T	U 4	A 3	Own CG		2F	H 8.52	54.0	9x3x¼	T
24	SE	6	5800	158	168	.....	8950	B10.50/22	DB10.50/22	Own SCM	6-4½x4¾	Own T	U 4	A 3	Own CG		2F	H 8.52	54.0	9x3x¼	T
25	C	7½	6600	158	176	.....	10950	B10.50/24	DB10.50/24	Own SCM	6-4½x4¾	BL 734	U 4	A 3	Wis 78720		2F	H 9.92	121.	10½x3x⅜	T
26	CE	7½	6000	172	203	.....	10300	S36x7	DS40x8	Own SCM	6-4½x4¾	Own T	U 4	No	Own C		2F	H 8.57	52.6	9x3x¼	T
27	CBS	7½	6200	203	203	.....	9800	P42x9	DP42x9	Own SCM	6-4½x4¾	Own B	A 4	No	Own C		2F	H 8.57	52.6	9x3x¼	T
28	CF	7½	6900	164	182	.....	11280	B10.50/24	DB10.50/24	Wau 6RB	6-5x5¾	BL 734	U 4	A 3	Wis 78720		2F	H 9.92	121.	10½x3x⅜	T
29	T	7½	6000	192	242	.....	9975	B10.50/22	DB10.50/22	Own SCM	6-4½x4¾	Own T	U 4	A 3	Own TG		2F	H 7.20	88.5	9x3x¼	T
30	TE	8½	6500	189	207	.....	10700	B10.50/24	DB10.50/24	Own SCM	6-4½x4¾	BL 734	U 4	A 3	Own TG		2F	H 7.20	87.6	10½x3x⅜	T
31	TF	8½	6800	195	247	.....	10950	B10.50/24	DB10.50/24	Wau 6RB	6-5x5¾	BL 734	U 4	A 3	Own TG		2F	H 7.20	87.6	10½x3x⅜	T
32	(T) FE 20		9500	180	180	.....	12300	B10.50/24	DB10.50/24	Ste LT	6-5¼x6	BL 734	U 4	A 3	Wis 79731		2F	H 7.9	96.0	10½x3x⅜	T
33	(Eng.und.seat) UD	3	3500	89	145	.....	6170	P34x7	DP34x7	Own SD	6-4x4¾	Own T	U 4	No	Own H & D		2F	H 6.21	39.3	7x2½x¼	T
34	UN	4	4600	96	163	.....	9040	B9.75/20	DB9.75/20	Own SCH	6-4¼x4¾	Own T	U 4	No	Own C & N		2F	H 7.20	45.6	8x3x¼	T
35	US	5	5300	98	163	.....	9380	B9.75/22	DB9.75/22	Own SCH	6-4¼x4¾	Own T	U 4	No	Own CG&TG		2F	H 7.20	45.6	9x3x¼	T
36	USE	6	5600	98	163	.....	9510	B10.50/22	DB10.50/22	Own SCM	6-4½x4¾	Own T	U 4	No	Own CG&TG		2F	H 7.20	45.6	9x3x¼	T
37	UTE	8½	6100	98	150	.....	10050	B10.50/24	DB10.50/24	Own SCM	6-4½x4¾	Own T	U 4	No	Own CG&TG		2F	H 7.20	45.6	10¼x3x⅜	T
38	Available W140	2	1350	168	182	11400	4000	B7.00/20	DB7.00/20	Wau ZK	6-3¾x4½	WG T9	U 4	No	Tim 53200	SF		R 6.6	42.2	10x2½x⅜	T
39	W200	2½	1850	168	182	13400	4500	B7.50/20	DB7.50/20	Wau TL	6-3¾x4¾	BL 224	U 4	No	Tim 54300	SF		R 6.8	43.5	10x2½x¼	T
40	W230	3	2250	182	196	16300	5500	B8.25/20	DB8.25/20	Wau 6-90	6-3¾x4¾	BL 234	U 4	No	Tim 56200	SF		R 7.4	47.4	12x2½x¼	T
41	W300	3½	2750	182	196	20700	7000	B9.00/20	DB9.00/20	Wau 6-110	6-4x4¾	FU 5A-380	U 5	No	Tim 58200	SF		R 7.8	54.6	12x2½x¼	T
42	W400	4	3750	Op	Op	25500	8200	B9.75/20	DB9.75/20	Wau 6-125	6-4¼x5½	BL 615	U 5	No	Tim 65720H	WF		R 8.5	55.6	7x12½x⅝	T
43	Brockway 80C	1½-2	1185	149	168	10500	4035	B6.50/20	DB6.50/20	Con 26B	6-3⅜x4	Wa T9	U 4	No	Tim 53200BY	SF		H 5.66	36.2	5⅝x2½x½	T
44	90C	2-2½	1485	149	168	12500	4480	B7.00/20	DB7.00/20	Con 28B	6-3¾x4⅝	Wa T9	U 4	No	Tim 54300H	SF		H 5.83	37.4	7⅞x2½x½	T
45	100C	2-3	1800	168	186	15000	4985	B7.50/20	DB7.50/20	Con 28B	6-3¾x4⅝	.....	U 5	No	Tim 54300H	SF		H 5.83	46.0	7⅞x2½x½	T
46	120C	2-3	2090	156	188	15000	5640	B7.50/20	DB7.50/20	Con 30B	6-4x4⅛	BL 314	U 4	No	Tim 54300H	SF		H 5.83	38.5	7½x3x¼	T
47	140C	2½-3½	2690	156	200	17500	6385	B8.25/20	DB8.25/20	Con 30B	6-4x4⅛	BL 314	U 4	Op	Wis 4916L	2F		R 6.66	43.5	7½x3x¼	T
48	150C	2½-3½	2540	188	200	18500	6000	B8.25/20	DB8.25/20	Con E600	6-3⅛x4½	BL 334	U 4	Op	Tim 56200H	SF		R 5.71	35.0	8x3x¼	T
49	141C	3-4	3175	170	212	19500	7450	B9.00/20	DB9.00/20	Con 30B	6-4x4⅛	BL 314	U 4	Op	Wis 70000L	2F		R 7.0	46.2	8x3x¼	T
50	160C	3½-4	3175	188	200	21000	7500	B9.00/20	DB9.00/20	Con 32B	6-4x4½	.....	U 5	Op	Tim 58200H	SF		R 6.14	48.5	8x3x¼	T
51	170C	3-4	3450	170	212	19500	7750	B9.00/20	DB9.00/20	Con 33B	6-4¼x4¾	BL 534	U 4	Op	Wis 70000L	2F		R 6.28	39.9	8x3x¼	T
52	175C	3-4	3850	170	224	24000	7900	B9.00/20	DB9.00/20	Con 34B	6-4⅜x4¾	BL 525	U 5	Op	Wis 70000L	2F		R 6.28	39.9	8x3x¼	T
53	195C	5	4000	170	224	24000	8540	B9.75/20	DB9.75/20	Con 33B	6-4¼x4¾	BL 534	U 4	Op	Wis 1237H	2F		R 6.39	40.6	8¼x3x⅜	T
54	220C	7½	4700	170	224	28000	8980	B10.50/20	DB10.50/20	Con 34B	6-4⅜x4¾	BL 534	U 4	Op	Wis 1627KH	2F		R 6.96	44.2	8¼x3x⅜	T
55	260C	7½-10	5850	212	240	30000	9585	B10.50/22	DB10 50/22	Con 35B	6-4½x5¼	Fu MHU	U 4	Op	Wis 1737KH	2F		R 8.05	50.7	8¼x3x⅝	T
56	Chevrolet... Comm'l	½	330	109	109	4100	1995	B5.25/18	B5.25/18	Own	6-3⅛x4	Own	U 3	No	Own		S½	U 4.11	39.7	5x2¼x⅜	C
57	Utility	1½	480	131	131	7500	2830	P30x5	P32x6	Own	6-3⅛x4	Own	U 4	No	Own		S½	U 5.43	39.2	6½x2¾x⅜	C
58	Utility	1½	510	157	157	7500	2920	P30x5	P32x6	Own	6-3⅛x4	Own	U 4	No	Own		S½	U 5.43	39.2	7x2⅝x½	C
59	Coleman E52	2½	3800	120	144	12800	7200	B9.00/24	B9.00/24	Bud K393	6-4⅛x4¾	Fu RU 16	U 4	A 2	Wis CR15	2F		H Opt	Opt	10x2½x⅜	B
60	(all 4 Wh.Dr.) E53	3½	5300	130	180	18900	8000	B9.75/24	B9.75/24	Bud K428	6-4⅜x4¾	Fu MRU16	U 4	A 2	Wis CR26	2F		H Opt	Opt	12x2½x⅜	B
61	E54	4-5	5600	130	180	20400	8800	B10. 50/24	B10.50/24	Bud L468	6-4¼x5½	Fu MRU16	U 4	A 2	Wis CR30	2F		H Opt	Opt	12x2½x1⅛	B
62	E55	5	6150	130	180	23000	9600	B11.25/24	B11.25/24	Bud L525	6-4½x5½	Fu MRU16	U 4	A 2	Wis CR30	2F		H Opt	Opt	12x2½x1⅛	B
63	E55S	5-6	7200	144	180	24500	10600	B11.25/24	B11.25/24	Bud L525	6-4½x5½	Fu MHU16	U 4	A 2	Wis CR122	2F		H Opt	Opt	12x2⅝x1¼	B
64	E56	6-7½	7800	144	180	29800	11600	B10.50/24	DB10.50/24	Bud GF6	6-4¼x6	Fu MHU	U 4	A 2	Wis CR122	2F		H Opt	Opt	12x2⅝x¼	B
65	E57	7½-10	9700	144	180	32000	12400	B11.25/24	DB11.25/24	Ste LT6	6-5¼x6	BL 714	U 4	A 2	Wis CR122	2F		H Opt	Opt	16x3x1¼	B
66	Corbitt 8B4	1½	980	134	134	8500	3200	B6.00/20	P32x6	Con W10	4-3⅞x4¼	Ow 8T	U 4	No	Own 8R	SF		H 5.4	38.4	5⅝x3x¼	P
67	8B6	1½	1080	136	136	8500	3275	B6.00/20	P32x6	Con 25A	6-3⅜x4	Ow 8T	U 4	No	Own 8R	SF		H 5.4	38.4	5⅝x3x¼	P
68	10B6	1½-2	1310	171	191	.....	3950	B6.50/20	DB6.50/20	Con 25A	6-3⅜x4	BL 214	U 4	No	Tim 53200H	SF		H Op	Op	5⅞x3½x¼	T
69	9B6	1½-2½	2185	152	183	.....	4200	P32x6	DP32x6	Con 20C	6-3⅝x4⅝	BL 224	U 4	No	Tim 54200H	SF		H 5.57	27.8	7x3½x¼	T
70	12B6	2-3	3060	163	220	.....	4870	B7.50/20	DB7.50/20	Con E601	6-3⅞x4½	BL 334	U 4	No	Tim 56200H	SF		H Opt	Opt	7x3½x¼	T
71	12W6	2-3	2950	165	220	.....	4910	B7.50/20	DB7.50/20	Con E601	6-3⅞x4½	BL 334	U 4	No	Tim 64800H	WF		H Opt	Opt	7x3½x¼	T
72	15B6	2½-3½	3740	174	220	.....	5870	P34x7	DP34x7	Con E601	6-3⅞x4½	BL 334	U 4	No	Tim 58200H	SF		H Opt	Opt	7x3½x¼	T
73	15W6	2½-3½	3850	183	224	.....	6160	P34x7	DP34x7	Con E601	6-3⅞x4½	BL 334	U 4	No	Tim 65200H	w/2F		H Opt	Opt	7x3½x¼	T
74	18	2½-4	4400	178	230	.....	8100	P36x8	DP36x8	Con E602	6-4¼x4½	BL 334	U 4	No	Tim 65720H	w/2F		H Opt	Opt	8x3½x¼	T
75	24	3½-5	5115	195	230	.....	9200	B9.75/20	DB9.75/20	Con E603	6-4¼x4½	BL 60	A 7	No	Tim66720H	w/2F		H Opt	Opt	8x3½x¼	T
76	33	5-7½	6160	195	230	.....	10000	P40x10	DP40x10	Con 21R	6-4⅝x4¾	BL 60 Max	A 7	No	Tim68720TW	w/2F		H Opt	Opt	8x3x⅜	T
77	(T) 10B6T	3-5	1650	(3)	(3)	.....	3950	B6.50/20	DB6.50/20	Con 20C	6-3⅝x4⅝	BL 224	U 4	No	Tim 53200H	SF		H Opt	Opt	5⅞x3½x¼	T
78	(T) 9B6T	4-6	2600	(3)	(3)	.....	4200	B7.50/20	DB7.50/20	Con E601	6-4¼x4½	BL 334	U 4	No	Tim 54200H	SF		H Opt	Opt	7x3½x¼	T
79	(T) 12BT6	4-7	3465	(3)	(3)	.....	4870	B8.25/20	DB8.25/20	Con E602	6-4½x4½	BL 335	U 4	No	Tim 56200H	SF		H Opt	Opt	7x3½x¼	T
80	(T) 15B6T	5-8	4875	(3)	(3)	.....	5870	B9.00/20	DB9.00/20	Con E603	6-4¼x4½	BL 335	U 5	No	Tim 58200H	SF		H Opt	Opt	7x3½x¼	T
81	(T) 18D6T	8-10	5500	(3)	(3)	.....	8100	B9.75/20	DB9.75/20	Con 22R	6-4½x5¼	BL 535	U 5	No	Tim 75720H	2F		H Opt	Opt	8x3½x¼	T
82	(T) 24D6T	10-15	6500	(3)	(3)	.....	9200	B10.50/20	DB10.50/20	Con 16H	6-4¾x5¾	BL 7212	U 4	U 3	Tim 66720W	?F		H Opt	Opt	8x3x⅜	T
83	Day-Elder (4) 60	1	895	135	156	6000	3300	B6.00/20	B6.50/20	Her JXA	6-3⅜x4¼	WG T9	U 4	No	Tim 53200H	BF		H 5.66	36.2	5⅞x3¾x⅜	C
84	85	1½-2	1395	135	168	8500	3850	B6.00/20	DB6.50/20	Her JXB	6-3⅝x4¼	WG T9	U 4	No	Tim 53200H	BF		H 6.60	42.2	5⅞x3⅜x⅜	C
85	110	2	1825	156	186	11000	4800	B7.00/20	DB7.00/20	Her JXC	6-3¾x4¼	WG T9	U 4	No	Tim 54200H	BF		H 6.80	43.5	7x3¾x¼	C
86	130	2½	2225	157	199	13000	6600	B7.50/20	DB7.50/20	Her WXC	6-4x4½	BL 334	U 4	No	Tim 56200H	BF		H 6.17	37.9	7x3¾x¼	C
87	160	3	2795	165	204	16000	6800	B9.00/20	DB9.00/20	Her WXC3	6-4¼x4½	BL 334	U 4	No	Tim 58200H	BF		R 6.75	41.4	9x3½x¼	C
88	200	4	3295	165	204	20000	7600	B8.25/20	DB8.25/20	Her WXC3	6-4¼x4½	BL 334	U 4	No	Tim 65720H	WF		R 7.75	47.6	9x3½x¼	C
89	240	5	4295	162	234	24000	9500	B10.50/20	DB10.50/20	Her RXC	6-4⅝x5¼	BL 534	U 4	No	Tim 66720H	WF		R 9.50	60.3	10x3¾x⅜	C
90	Diamond T... 210SF	1½	545	135	158	8500	3250	B5.50/20	B6.50/20	Her JXA	6-3⅜x4¼	WG T9	U 4	No	Cla B364		S½	H 5.4	34.6	7x2⅞x⅓	T
91	210FF	1½	565	135	158	8500	3250	B5.50/20	B6.50/20	Her JXA	6-3⅜x4¼	WG T9	U 4	No	Cla B373E		8F	H Opt	Opt	7x2⅞x⅓	T
92	225	1½	745	135	158	10000	3500	B6.00/20	DB6.00/20	Her JXA	6-3⅜x4¼	WG T9	U 4	No	Cla B410		8F	H Opt	Opt	7x2⅞x⅓	T
93	240A	1¾	795	137	179	10000	3500	B6.00/20	P32x6	Her JXA	6-3⅝x4¼	WG T9	U 4	No	Cla B410		8F	H Opt	Opt	8x3x⅓	T
94	310	2	995	155	179	12000	4200	B6.50/20	DB6.50/20	Her JXB	6-3⅝x4¼	WG T9	U 4	No	Cla B613		8F	H Opt	Opt	8x3x⅓	T
95	260	2	945	155	179	11000	4000	B6.50/20	DB6.50/20	Her JXA	6-3¾x4¼	WG T9	U 4	No	Cla B613		8F	H Opt	Opt	8x3x⅓	T
96	250	2½	1295	155	179	14000	4700	B7.00/20	DB7.00/20	Her JXC	6-3¾x4¼	Cla R103	U 5	No	Cla B642		8F	H Opt	Opt	8x3x⅓	T
97	325B	2½	1195	155	179	13000	4600	B7.00/20	DB7.00/20	Her JXB	6-3⅝x4¼	WG T9	U 4	No	Cla B642		8F	H Opt	Opt	8x3x⅓	T
98	325DR	2½	1345	155	179	13000	4600	B7.00/20	DB7.00/20	Her JXB	6-3⅝x4¼	WG T9	U 4	No	Wis 4916L	2F		R Opt	Opt	8x3x⅓	T
99	410A	3	1695	160	194	15000	5400	B7.50/20	DB7.50/20	Her WXC	6-4x4½	Co RU84C	U 4	No	Cla B642	8F		H Opt	Opt	6½x3x¼	P
100	410B	3	2135	200	212	15000	6200	B7.50/20	DB7.50/20	Her WXC	6-4x4½	Co RU84C	U 4	No	Cla B642	8F		H Opt	Opt	6½x3x¼	P
101	(N) 506A	3	2950	174	240	17500	6600	B8.25/20	DB8.25/20	Her WXC3	6-4¼x4½	Co RU5C	U 5	No	Wis 69317 BL	2F		H Opt	Opt	6½x3x¼	P
102	375	3	1645	155	179	15000	5000	B7.50/20	DB7.50/20	Her JXC	6-3¾x4¼	Cla R103	U 5	No	Wis 4916L	2F		R Opt	Opt	8x3x⅓	P
103	(N) 606B	3-4	3695	179	246	20000	7600	B9.00/20	DB9.00/20	Her RXB	6-4½x5¼	Co RU5C	U 5	No	Wis 1237H	2F		H Opt	Opt	6½x3x¼	P
104	510	4	1995	168	201	18000	6400	B7.00/20	DB8.25/20	Her WXC	6-4x4½	Co RU84C	U 4	No	Tim 58205H	8F		H Opt	Opt	6½x3x¼	P
105	(cont.) 425	4	2295	160	194	18000	6200	B8.25/20	DB8.25/20	Her WXC	6-4x4½	Cla R909	U 5	No	Wis 70000	2F		R Opt	Opt	6½x3x¼	P

TRUCK SPECIFICATIONS TABLE

FOR MEANING OF ABBREVIATIONS AND EXPLANATION OF REFERENCE MARKS SEE PAGE 48

Line Number	ENGINE DETAILS: Piston Displacement	Compression Ratio	Torque lb. ft.	N.A.C.C. Rated H.P.	Max. Brake H.P. at R.P.M. Given	Valve Arrangement	Camshaft Drive	Piston Material	MAIN BEARINGS: Number and Diameter	MAIN BEARINGS: Length	Oiling System Type	Governor Make	FUEL SYST.: Carburetors Make	FUEL SYST.: Fuel Feed	ELECTRICAL: Ignition System Make	ELECTRICAL: Generator, Starter Make	Clutch Type and Make	Radiator Make	Universals Make	FRONT AXLE: Make and Model	Steering Gear Make	BRAKES: SERVICE: Make, Location Type, Operation	BRAKES: SERVICE: Lining Area	BRAKES: SERVICE: Drum Material	BRAKES: Hand Type, Location	BODY MOUNTING DATA: Cab to Rear of Frame	BODY MOUNTING DATA: Cab to Rear Axle	BODY MOUNTING DATA: Width of Frame	SPRINGS: Front	SPRINGS: Rear	SPRINGS: Auxiliary Type
1	468	4.4	322	43.3	120–2200	H	C	A	4–2¾	10⅜	CC	Ha	Zen	V	DR	DR	P.BL	Lo	Spi	Tim 27451	Ros	O4IA	720	A	CD	172	102	33½	42x3	56x4	½
2	707	4.4	500	60.	175–2200	H	C	A	7–3¼	14⅞	CC	Ha	Zen	M	DR	DR	dpLo	Lo	Spi	Tim 27451	Ros	O4IA	720	A	CD	172	102	33½	42x3	56x4	½
3	707	4.4	500	60.	175–2200	H	C	A	7–3¼	14⅞	CC	Ha	Zen	M	D	DR	dpLo	Lo	Spi	Tim 27451	Ros	O4IA	816	A	CD	172	102	33½	42x3	56x4	½
4	248	5.0	150	27.3	65–2600	L	G	C	7–2⅜	10⅝	PC	No	Zen	M	DR	DR	P.BB	Yo	Spi	Tim	Ros	L4IH	380	G	TX	129½	Opt	31½	40x2½	50x3	½
5	298	4.7	192	33.7	66–2200	L	G	C	7–2⅝	13¼	PC	Mo.	Zen	M	AL	AL	D.BB	Yo	Spi	Tim	Ros	L4IHV	452	G	TX	129½	Opt	31½	40x2½	50x3	½
6	339	4.7	225	38.4	73–2200	L	G	C	7–2⅝	13¼	PC	Mo	Zen	M	AL	AL	D.Fu	Yo	Spi	Tim	Ros	L4IHV	578	G	TX	106	Opt	31½	40x2½	62⅝x2½	N
7	339	4.7	225	38.4	73–2200	L	G	C	7–2⅝	13¼	PC	Mo	Zen	M	AL	AL	D.Fu	Yo	Spi	Tim	Ros	L4IHV	658	G	TX	118	Opt	31½	40x2½	62⅝x2½	N
8	360	4.7	238	40.3	80–2200	L	G	C	7–2⅝	13¼	PC	Mo	Zen	M	AL	AL	D.Fu	Yo	Spi	Shu	Ros	L4IHV	768	G	TX	106	Opt	31½	41x2½	62⅝x2½	N
9	428	4.7	280	46.	93–2200	L	G	C	7–3	15	PC	Mo	Zen	M	AL	AL	D.Fu	Yo	Spi	Shu	Ros	L4IHV	893	G	TX	118	Opt	31½	41x2½	62⅝x3	N
10	478	4.4	318	51.2	103–2200	L	G	C	7–3	15	PC	Mo	Zen	M	AL	AL	D.Fu	Yo	Spi	Tim	Ros	L4IHV	658	G	TX	92	Opt	31½	41x2½	62⅝x3	N
11	314	5.2	213	33.7	75–2400	L	G	C	7–3	12⅝	FP	No	Str	M	DR	DR	P.BL	GO	Spi	Tim 31000	Ros	LO4ID	450	c	2I	124¼	72⅝	34	40x2½	54x3	½
12	314	5.2	213	33.7	75–2400	L	G	C	7–3	12⅝	FP	No	Str	M	DR	DR	dpLo	GO	Spi	Tim 31000	Ros	LO4ID	450	c	2I	124¼	72⅝	34	40x2½	54x3	½
13	314	5.2	213	33.7	75–2400	L	G	C	7–3	12⅝	FP	Ow	Str	M	DR	DR	dpLo	GO	Spi	Tim 31000	Ros	LO4ID	450	c	2I	124¼	72⅝	34½	40x2½	54x3	½
14	358	5.2	240	38.4	84–2500	L	G	C	7–3	12⅝	FP	Ow	Str	M	DR	DR	dpLo	GO	Spi	Tim 33000	Ros	LO4IDV	450	c	2I	115¼	63⅝	34½	40x2½	54x3	½
15	358	5.2	240	38.4	84–2500	L	G	C	7–3	12⅝	FP	Ow	Str	M	DR	DR	dpLo	GO	Spi	Tim 33000	Ros	LO4IDV	450	c	2I	115¼	63⅝	34½	40x2½	54x3	½
16	358	5.2	240	38.4	84–2500	L	G	C	7–3	12⅝	FP	Ow	Str	M	DR	DR	dpLo	GO	Spi	Tim 33000	Ros	LO4IDV	574	c	2I	115¼	63⅝	34½	42½x3	54x3	½
17	358	5.2	240	38.4	84–2500	L	G	C	7–3	12⅝	FP	Ow	Str	M	DR	DR	dpLo	GO	Spi	Tim 35000	Ros	LO4IDV	519	c	2I	115¼	63⅝	34½	42½x3	54x3	½
18	358	5.2	240	38.4	84–2500	L	G	C	7–3	12⅝	FP	Ow	Str	M	DR	DR	dpLo	GO	Spi	Tim 35000	Ros	LO4IDV	519	c	2I	115¼	63⅝	34½	42½x3	54x3	½
19	404	5.1	271	43.4	94–2500	L	G	C	7–3	14½	FP	Ow	Str	M	DR	DR	dpLo	GO	Spi	Tim 35000	Ros	LO4IDV	519	c	FD	174⅜	104½	34½	40x2½	54x3	½
20	404	5.1	271	43.4	94–2500	L	G	C	7–3	14½	FP	Ow	Str	M	DR	DR	dpLo	GO	Spi	Tim 35000	Ros	LO4IDV	519	c	FD	110	62	34½	40x2½	54x3	½
21	404	5.1	271	43.4	94–2500	L	G	C	7–3	14½	FP	Ow	Str	M	DR	DR	dpLo	GO	Spi	Tim 35000	Ros	LO4IDV	519	c	FD	174⅜	104½	34½	40x2½	54x3	½
22	453	5.1	309	48.6	101–2400	L	G	C	7–3	14½	FP	Ow	Str	M	DR	DR	dpLo	GO	Spi	Tim 35000	Ros	LO4IDV	519	c	FD	110	62	34½	40x2½	54x3	½
23	404	5.1	271	43.4	94–2500	L	G	C	7–3	14½	FP	Ow	Str	M	DR	DR	dpLo	GO	Spi	Tim 26450	Ros	LO4IDV	544	c	FD	122½	74½	34½	42½x3	54⅜x4	½
24	453	5.1	309	48.6	101–2400	L	G	C	7–3	14½	FP	Ow	Str	M	DR	DR	dpLo	GO	Spi	Tim 26450	Ros	LO4IDV	544	c	FD	122½	74½	34½	42½x3	54⅜x4	½
25	453	5.1	309	48.6	101–2400	L	G	C	7–3	14½	FP	Ow	Str	M	DR	DR	dpLo	GO	Spi	Tim 27450	Ros	LO4IDV	664	c	FD	121¾	73¾	34½	42½x3	54⅜x4	½
26	453	5.1	309	48.6	101–2400	L	G	C	7–3	14½	FP	Ow	Str	M	DR	DR	dpLo	GO	Spi	Own 8CH	Ros	O2IMV	502	c	FD	88½	158⅞	34½	42½x3	55x4	½
27	453	5.1	309	48.6	101–2400	L	G	C	7–3	14½	FP	Ow	Str	M	DR	DR	dpLo	GO	Spi	Tim 26450	Ros	B04IMV	670	c	FD	119½	210	34½	42½x3	54⅜x4	½
28	677	4.6	462	60.0	126–1800	L	G	A	4–3½	11⅜	PC	Wa	Str	M	DR	DR	dpBL	GO	Spi	Tim 27450	Ros	LO4IDV	664	c	FD	122½	74⅝	34½	42½x3	54⅜x4	½
29	453	5.1	309	48.6	101–2400	L	G	C	7–3	14½	FP	Ow	Str	M	DR	DR	dpLo	GO	Spi	Tim 26450	Ros	O4IA	544	c	FD	175½	105	34½	42½x3	54⅜x4	½
30	453	5.1	309	48.6	101–2400	L	G	C	7–3	14½	FP	Ow	Str	M	DR	DR	dpLo	GO	Spi	Tim 26450	Ros	O4IA	544	c	FD	223	104¾	34½	42½x3	54⅜x4	½
31	677	4.6	462	60.0	126–1800	L	G	A	4–3½	11⅜	PC	Wa	Str	M	DR	DR	dpBL	GO	Spi	Tim 27450	Ros	O4IA	544	c	FD	175½	105⅝	34½	42½x3	54⅜x4	½
32	780	4.7	475	66.1	156–1800	L	G	A	7–3	16½	FP	St	Ze2	M	NE	LN	dpBL	GO	Spi	Tim 27450	Ros	W84IA	664	c	FD	114¾	84	34½	42½x3	54⅜x4	½
33	358	5.2	240	38.4	84–2500	L	G	C	7–3	12⅝	FP	Ow	Str	M	DR	DR	dpLo	GO	Spi	Tim 35000	Ros	LO4IDV	450	c	2I	112	64¼	34	41x2½	53x3	½
34	404	5.1	271	43.4	94–2500	L	G	C	7–3	14½	FP	Ow	Str	M	DR	DR	dpLo	GO	Spi	Tim 26450	Ros	LO4IDV	544	c	FD	124	71¼	34	41½x3	53x3	½
35	404	5.1	271	43.4	94–2500	L	G	C	7–3	14½	FP	Ow	Str	M	DR	DR	dpLo	GO	Spi	Tim 26450	Ros	LO4IDV	544	c	FD	121¼	73¼	34	41x3	53½x4	½
36	453	5.1	309	48.6	101–2400	L	G	C	7–3	14½	FP	Ow	Str	M	DR	DR	dpLo	GO	Spi	Tim 27450	Ros	LO4IDV	660	c	FD	121¾	73¼	34	41x3	53½x4	½
37	453	5.1	309	48.6	101–2400	L	G	C	7–3	14½	FP	Ow	Str	M	DR	DR	dpLo	GO	Spi	Tim 27450	Ros	LO4IDV	660	c	FD	104	73¼	34	41x3	53½x4	½
38	221	4.9	144	27.3	63–3000	L	G	C	4–2⅜	6⅛	FP	No	Sch	M	DR	DR	P.Lo	Ch	Blo	Tim 30000H	Ros	L4IH	269	a	TX	120	82½	32	42½x2¼	58x2½	N
39	255	5.1	175	27.3	69–2600	L	G	C	4–2⅜	7⅜	FP	No	Sch	M	DR	DR	P.BL	Ch	Blo	Tim 31000H	Ros	L4IH	330	a	TX	120	82½	32	42½x2½	58x2½	N
40	255	5.1	182	27.3	90–3200	F	G	A	4–2⅜	6⅛	CC	Wa	Sch	M	DR	DR	P.BB	Ch	Blo	Tim 33000H	Ros	L4IH	330	a	TX	144	96½	32	42½x2½	58x3	N
41	358	5.1	254	38.4	110–2800	F	G	A	7–2¼	12½	CC	Wa	Sch	M	DR	DR	P.BB	Ch	Blo	Tim 35000H	Ros	L4IH	376	a	TD	144	96½	32	42½x2½	58x3	N
42	462	5.0	324	45.9	125–2600	F	G	A	7–3	13⅞	CC	Wa	Str	M	DR	DR	P.BL	Ch	Blo	Tim 35000H	Ros	L4IHV	462	E	FD	Opt	Opt	32	42½x2½	58x3	N
43	214	4.9	142	27.3	72–3200	L	C	A	4–2⅜	6⅜	CC	No	Zen	M	AL	AL	P.BB	GO	Spi	Col 4006	Ros	B4IM	248	G	TX	111	65	34	37x2¼	52x2½	½
44	248	4.9	170	27.3	78–3100	L	C	C	7–2⅜	10⅛	CC	No	Zen	M	AL	AL	P.BB	GO	Spi	Col 5500A8	Ros	L4IH	353	G	CD	111	65	34	37x2¼	52x2½	½
45	248	. . .	170	27.3	78–3100	L	C	C	7–2⅜	10⅛	CC	No	Zen	M	AL	AL	P.BB	GO	Spi	Col 5500A9	Ros	L4IH	353	G	CD	141	84	34	37x2¼	52x2½	½
46	311	4.2	196	38.4	73–2400	H	C	N	7–2¾	13⅛	CC	No	Zen	M	AL	AL	D.BL	GO	Spi	Col 5500A7	Ros	L4IH	353	G	CD	108	69	34	40x2½	54x3	½
47	311	4.2	196	38.4	73–2400	H	C	N	7–2¾	13⅛	CC	KP	Zen	M	AL	AL	D.BL	GO	Spi	Col 5500A7	Ros	L4IHV	386	G	CD	108	69	34	40x2½	54x3	½
48	288	4.7	180	32.6	73–2700	L	G	N	7–2⅝	11⅞	FP	KP	Zen	M	AL	AL	D.BL	GO	Spi	Shu 5582B	Ros	L4IHV	386	G	CD	168	101	34	40x2½	54x3	½
49	311	4.2	196	38.4	73–2400	H	C	N	7–2¾	13⅛	CC	KP	Zen	M	AL	AL	D.BL	GO	Spi	Shu 15582B	Ros	L4IHV	380	G	CD	142	83	34	40x2½	54x3	½
50	360	. . .	240	40.8	90–2500	L	G	N	7–2⅝	13	CC	KP	Zen	M	AL	AL	P.BB	GO	Spi	Shu 15582B	Ros	L4IH	380	G	CD	168	101	34	40x2½	54x3	½
51	381	4.4	236	40.8	89–2400	H	C	N	7–2¾	13⅛	FP	KP	Zen	M	AL	AL	D.BL	GO	Spi	Shu 15582B	Ros	L4IHV	546	G	CD	142	83	34	40x2½	54x3	½
52	427	4.2	268	45.9	100–2400	H	C	N	7–2¾	13⅛	FP	KP	Zen	M	AL	AL	D.BL	GO	Spi	Shu 15692B	Ros	L4IHV	546	G	CD	142	83	34	40x2½	54x3	½
53	381	4.4	236	40.8	89–2400	H	C	N	7–2¾	13⅛	FP	KP	Zen	M	AL	AL	D.BL	GO	Spi	Shu 15692B	Ros	L4IHV	546	G	CD	142	83	34½	40x2½	54x3	½
54	427	4.2	268	45.9	100–2400	H	C	N	7–2¾	13⅛	FP	KP	Zen	M	AL	AL	D.BL	GO	Spi	Shu 15692B	Ros	L4IHV	546	G	CD	142	83	34½	40x2½	54x3	½
55	501	4.3	340	48.6	120–2200	H	C	A	7–2¾	13⅛	CC	KP	Zen	M	AL	AL	D.Fu	GO	Spi	Shu 15692B	Ros	L4IHV	546	G	CD	210	125	34¼	40x2½	54x3	½
56	206	5.2	146	26.3	56–2750	H	G	C	3–2½	5⅛	PG	No	Car	M	DR	DR	P.Ow	Ha	Own	Own	Own	O4IM	129	p	4I	. . . .	27½	. . . .	36x1¾	54x1¾	N
57	206	5.2	146	26.3	56–2750	H	G	C	3–2½	5⅛	PG	No	Car	M	DR	DR	P.Ow	Ha	Own	Own	Own	O4IM	246	p	2I	85¼	50⅛	37	36x1¾	45x2½	N
58	206	5.2	146	26.3	56–2750	H	G	C	3–2½	5⅛	PG	No	Car	M	DR	DR	P.Ow	Ha	Own	Own	Own	O4IM	246	p	2I	111½	76¼	37	36x1¾	45x2½	N
59	393	4.9	260	42.0	103–2600	L	G	C	7–3	11½	FP	Ha	Zen	P	DR	DR	D.Fu	Pe	Spi	Wis CF15	Ros	W2/41M	476	p	TD	108	78	30	48x3	48x3	C
60	428	4.7	280	45.9	107–2600	L	G	C	7–3	11½	FP	Ha	Zen	P	DR	DR	D.Fu	Pe	Spi	Wis CF25	Ros	W2/41M	476	p	TD	144	89	30	48x3	48x3	C
61	468	4.8	295	43.4	108–2200	L	G	C	7–3	11½	FP	Ha	Zen	P	DR	DR	D.Fu	Pe	Spi	Wis CF30	Ros	W2/41M	476	p	TD	144	89	30	48x3	48x3	C
62	525	4.9	336	48.2	114–2200	L	G	C	7–3	11½	FP	Ha	Zen	P	DR	DR	D.Fu	Pe	Spi	Wis CF30	Ros	W2/41M	476	p	TD	144	89	30	48x3	48x3	C
63	525	4.9	336	48.2	114–2200	L	G	C	7–3	11½	FP	Ha	Zen	P	DR	DR	D.Fu	Pe	Spi	Wis CF122	Ros	W2/41M	530	G	TD	168	105	30	48x3½	52x3½	C
64	638	4.3	410	54.1	126–1850	L	G	C	4–3	10⅞	FP	Bu	Str	P	DR	DR	D.Fu	Pe	Spi	Wis CF122	Ros	W2/41M	530	G	TD	168	105	30	48x3½	52x3½	C
65	779	4.3	475	66.1	170–1800	L	G	A	7–3	13½	FP	St	Zen	P	NE	NE	dp.BL	Pe	Spi	Wis CF122	Ros	O2/4IA	530	G	TD	Opt	105	30	48x3½	52x3½	C
66	200	4.7	125	24.0	49–2800	L	C	A	3–2⅛	5⅛	FP	No	Zen	M	DR	DR	P.BB	Pe	Spi	Own 8F	Ros	L4IH	268	p	TX	96	53	34	38x2¼	50x2½	N
67	214	4.9	142	27.3	72–3200	L	C	A	4–2⅜	6⅜	FP	No	Zen	M	DR	DR	P.BB	Pe	Spi	Own 8F	Ros	L4IH	268	p	TX	96	55	34	38x2¼	50x2½	N
68	214	4.9	142	27.3	72–3200	L	C	A	4–2⅜	6⅜	FP	No	Zen	M	DR	DR	P.BL	Pe	Spi	Tim 30020H	Ros	L4IH	287	p	TX	Opt	Opt	34	38x2¼	54x3	½
69	248	5.0	160	27.3	78–3200	L	C	C	7–2⅜	10⅛	FP	No	Zen	M	DR	DR	P.BL	Pe	Spi	Tim 31000H	Ros	L4IH	327	a	TX	Opt	Opt	34	38x2¼	54x3	½
70	318	4.6	200	36.0	80–2700	L	C	C	7–2⅝	11¼	FP	No	Zen	M	DR	DR	P.BL	Pe	Spi	Tim 33000H	Ros	L4IH	345	a	TX	134	82	34	40x2½	54x3	½
71	318	4.6	200	36.0	80–2700	L	C	C	7–2⅝	11¼	FP	No	Zen	M	DR	DR	P.BL	Pe	Spi	Tim 33000H	Ros	L4IH	345	a	TX	134	82	34	40x2½	54x3	½
72	318	4.5	200	36.0	80–2700	L	C	C	7–2⅝	11¼	FP	No	Zen	M	DR	DR	P.BL	Pe	Spi	Tim 33000H	Ros	L4IH	660	a	TD	144	88	34	40x2½	54x3	½
73	318	4.5	200	36.0	80–2700	L	C	C	7–2⅝	11¼	FP	No	Zen	M	DR	DR	P.BL	Pe	Spi	Tim 33000H	Ros	L4IH	660	a	TD	144	97	34	40x2½	54x3	½
74	360	4.4	240	40.8	90–2500	L	C	C	7–2⅝	11¼	FP	No	Zen	M	DR	DR	D.BL	Pe	Spi	Tim 35000H	Ros	L4IHV	768	a	TD	132	92	34	40x2½	54x3	½
75	383	4.5	236	43.3	95–2500	L	C	C	7–2⅝	11¼	FP	No	Zen	M	DR	DR	D.BL	Pe	Spi	Tim 26450H	Ros	T4IHV	876	a	TD	162	109	34	46x3	60x3½	½
76	427	4.2	268	45.9	112–2400	H	C	C	7–2⅜	11¼	FP	No	Zen	M	DR	DR	D.BL	Pe	Spi	Tim27450TW	Ros	T4IA	921	a	TD	162	109	34	46x3	56x4	½
77	248	5.0	160	27.3	78–3200	L	C	C	7–2⅜	10⅛	FP	No	Zen	M	DR	DR	P.BL	Pe	Spi	Tim 30020H	Ros	L4IHV	380	p	TX	(3)	(3)	34	38x2¼	50x2½	½
78	318	4.6	200	36.0	80–2700	L	C	C	7–2⅝	11¼	FP	No	Zen	M	DR	DR	P.BL	Pe	Spi	Tim 31000H	Ros	L4IHV	452	a	TX	(3)	(3)	34	38x2¼	54x3	½
79	360	4.4	240	40.8	90–2500	L	C	C	7–2¾	11¼	FP	No	Zen	M	DR	DR	P.BL	Pe	Spi	Tim 33000H	Ros	L4IHV	578	a	TD	(3)	(3)	34	40x2½	54x3	½
80	383	4.5	236	43.3	95–2500	H	C	C	7–2⅝	11¼	FP	No	Zen	M	DR	DR	P.BL	Pe	Spi	Tim 33000H	Ros	L4IHV	660	a	TD	(3)	(3)	34	40x2½	54x3	½
81	500	4.2	340	48.6	121–2400	H	C	A	7–2¾	13⅛	FP	No	Zen	M	DR	DR	D.BL	Pe	Spi	Tim 35000A	Ros	L4IHV	768	a	TD	(3)	(3)	34	40x2½	54x3	½
82	611	4.5	384	54.1	127–2300	L	G	A	7–3	13⅛	FP	No	Zen	M	DR	DR	dpBL	Pe	Spi	Tim 26450W	Ros	W84IA	921	a	TD	(3)	(3)	34	46x3	60x3½	½
83	228	4.4	141	27.3	59–2800	L	G	C	7–2½	10⅛	PC	No	Zen	M	DR	DR	P.BB	GO	Spi	Tim 30000H	Ros	L4IH	269	a	XF	106½	58½	34	40x2¼	54x2½	½
84	263	4.4	164	31.5	68–2800	L	G	C	7–2½	10⅛	PC	No	Zen	M	DR	DR	P.BB	Pe	Spi	Tim 30000H	Ros	L4IH	269	a	XF	104½	56½	34	40x2¼	54x2½	½
85	282	4.4	175	33.7	73–2800	L	G	C	7–2½	10⅛	PC	No	Zen	M	DR	DR	P.BB	Pe	Spi	Tim 31000H	Ros	L4IH	282	a	XF	130½	78½	33½	40x2¼	53x2½	½
86	339	4.7	216	38.4	76–2400	L	G	C	7–2⅜	13¼	PC	No	Zen	M	DR	DR	P.BL	Pe	Spi	Tim 33000H	Ros	L4IH	353	a	DF	121	70	33½	40x2¼	54x3	½
87	383	4.7	267	43.3	92–2400	L	G	C	7–2⅜	13¼	PC	Ha	Zen	M	DR	DR	P.BL	Pe	Spi	Tim 33000H	Ros	L4IH	395	a	DF	131	79½	34	42x2½	56x3	½
88	383	4.7	267	43.3	92–2400	L	G	C	7–2⅜	13¼	PC	Ha	Zen	M	DR	DR	P.BL	Pe	Spi	Tim 35000H	Ros	L4IH	484	a	DF	131	79½	34	42x2½	56x3	½
89	529	4.4	347	51.3	114–2200	L	G	A	7–3	12½	PC	Ha	Zen	M	DR	DR	P.BL	Pe	Spi	Tim 26450H	Ros	L4IH	692	a	DF	132	78	33	46x3	60x4	½
90	228	4.7	148	27.3	63–2800	L	G	C	7–2½	10⅛	PC	No	Zen	M	AL	AL	P.BB	GO	Spi	Cla F212A	Ros	L4IH	218	a	TX	93	51½	34	42x2	50x2½	½
91	228	4.7	148	27.3	63–2800	L	G	C	7–2½	10⅛	PC	No	Zen	M	AL	AL	P.BB	GO	Spi	Cla F212A	Ros	L4IH	218	a	TX	93	51½	34	42x2	50x2½	½
92	228	4.7	148	27.3	63–2800	L	G	C	7–2½	10⅛	PC	No	Zen	M	AL	AL	P.BB	GO	Spi	Cla F212A	Ros	L4IH	252	a	TX	93	51½	34	42x2	50x2½	½
93	228	4.7	148	27.3	63–2800	L	G	C	7–2½	10⅛	PC	No	Zen	M	AL	AL	P.BB	GO	Spi	Cla F212A	Ros	L4IH	222	a	TX	96	54	34	42x2½	53x2½	½
94	263	5.4	164	31.5	68–2800	L	G	C	7–2½	10⅛	PC	No	Zen	M	AL	AL	P.BB.	GO	Spi	Cla F308	Ros	L4IH	350	a	TX	126	72	34	42x2½	53x2½	½
95	228	4.7	148	27.3	63–2800	L	G	C	7–2½	10⅛	PC	No	Zen	M	AL	AL	P.BB	GO	Spi	Cla F212A	Ros	L4IH	335	a	TX	126	72	34	42x2½	53x2½	½
96	282	5.35	176	33.7	73–2800	L	G	C	7–2½	10⅛	PC	No	Zen	M	AL	AL	P.BB	GO	Spi	Cla F308	Ros	L4IH	350	a	TD	126	72	34	42x2½	53x2½	½
97	263	5.4	164	31.5	68–2800	L	G	A	7–2½	10⅛	PC	No	Zen	M	AL	AL	P.BB	GO	Spi	Cla F308	Ros	L4IH	350	a	TD	126	72	34	42x2½	53x2½	½
98	263	5.4	164	31.5	68–2800	L	G	A	7–2½	10⅛	PC	No	Zen	M	AL	AL	P.BB	GO	Spi	Cla F308	Ros	L4IH	350	a	TD	126	72	34	42x2½	53x2½	½
99	339	5.0	232	38.4	103–2800	L	G	A	7–2⅜	13¼	PC	Ha	Zen	M	AL	AL	P.BB.	GO	Spi	Cla F308	Ros	L4IHV	350	a	TD	117	74¾	34	45¼x2½	56x3	½
100	339	5.0	232	38.4	103–2800	L	G	A	7–2⅜	13¼	PC	Ha	Zen	M	LN	LN	P.BB	GO	Spi	Cla F308	Ros	L4IHV	350	a	TD	Opt	113⅝	34	45¼x2½	56x3	½
101	384	5.05	258	43.3	107–2800	L	G	C	7–2⅜	13¼	PC	Ha	Zen	M	LN	LN	D.Co	GO	Spi	Shu 5582B	Ros	L4IHV	410	pa	TD	138	87⅜	34	45¼x2½	56x3	½
102	282	5.3	176	33.7	73–2800	L	G	A	7–2½	10⅜	PC	Ha	Zen	M	AL	AL	P.BB	GO	Spi	Cla F308	Ros	L4IH	350	a	TD	126	72	34	42x2½	53x3	½
103	501	4.4	330	48.6	110–2200	L	G	C	7–3	12⅛	PC	Ha	Zen	M	LN	LN	D.Co	GO	Spi	Shu 5582B	Ros	L4IHV	499	a	TD	138	88	34	45¼x2½	56x3	½
104	339	5.0	232	38.4	103–2800	L	G	A	7–2⅜	13¼	PC	Ha	Zen	M	AL	AL	D.Co	GO	Spi	Shu 5582B	Ros	L4IHV	408	pa	TD	114	71⅛	34	45¼x2½	56x3	½
105	339	5.0	232	38.4	103–2800	L	G	A	7–2⅜	13¼	PC	Ha	Zen	M	AL	AL	P.BB	GO	Spi	Cla F308	Ros	L4IHV	408	a	TD	117	74¾	34	45¼x2½	56x3	½

Line Number	MAKE AND MODEL	GENERAL (See Keynote)					TIRE SIZE		MAJOR UNITS.									FRAME	
									ENGINE		TRANSMISSION		REAR AXLE			GEAR RATIOS			
		Tonnage Rating	Chassis Price	Standard Wheelbase	Max. W. B. Furnished	Gross Vehicle Weight	Chassis Wt. (Stripped)	Front	Rear	Make and Model	No. of Cylinders Bore and Stroke	Make and Model	Location and Forward Speeds	Aux. Location and Speeds	Make and Model	Gear and Type	Drive and Torque	In High	In Low	Side Rail Dimensions	Type
1	Diamond T. . . 603A	5	3150	169	230	20000	8100	B9.00/20	DB9.00/20	Her YXC	6-4⅜x4¾	Co RU5C	U 5	Op	Wis 1237H	2F	R	Opt	Opt	6½x3x¼	P
2	(Concluded) . . 525	5	2595	168	201	20000	7200	B9.00/20	DB9.00/20	Her WXC3	6-4¼x4½	Cla R909	U 5	No	Wis 1237H	2F	R	Opt	Opt	6½x3x¼	P
3	 740	5-6	3750	178	232	22000	8500	B9.75/20	DB9.75/20	Her RXB	6-4½x5¼	Co SA5	A 5	Op	Wis 1237H	2F	R	Opt	Opt	7½x3½x⅛	P
4	 750	5-7	4450	178	232	28000	10000	B9.75/22	DB9.75/22	Her RXC	6-4¾x5¼	Co SA5	A 5	Op	Wis 1737H KW	2F	R	Opt	Opt	7½x3½x⅛	P
5	. . . . . 750H	5-7	4050	178	232	28000	10000	B9.75/20	DB9.75/20	Her RXC	6-4⅜x5¼	Co SA5	A 5	Op	Wis 1737H	2F	R	Opt	Opt	7½x3½x⅛	P
6	 1515	7½	6600	171	Op	36000	12000	B10.50/24	DB10.50/24	Her HXB	6-5x6	BL 744	A 4	A 3	Wis 79730	2F	R	Opt	Opt	9x3½x¼	P
7	Differential . . E-131	2½	3200	160	160	18100	5100	B9.00/20	DB9.00/20	Lyc ASD	6-3¼x4½	BL 314	U 4	No	Tim 58200	BF	H	7.8	51.4	12x2½x¼	P
8	Dodge Bros. . . . HC	Com'l	340	111	111	. . . . .	1775	B5.25/17	DB5.25/17	Own.	6-3½x4½	Own	U 3	No	Own	S½	H	4.37	12.2	5x2x¼	. . . .
9	. . . . . HCL	Com'l	365	119	119	. . . . .	1805	B5.25/17	B5.25/17	Own	6-3½x4½	Own	U 3	No	Own	S½	H	4.37	12.2	5½x2¼x⅛	X
10	. . . . . UG20	¾-1	537	131	157	5900	2450	B7.50/17	B7.50/17	Own	4-3⅛x4⅜	Own	U 4	No	Own	SF	H	5.85	36.1	7x2¼x⅜	C
11	. . . . . G20	¾-1	597	131	157	5975	2520	B7.50/17	B7.50/17	Own	4-3⅛x4⅜	Own	U 4	No	Own	SF	H	5.85	36.1	7x2¼x⅜	C
12	. . . . . H20	¾-1	502	131	157	6075	2667	B7.00/20	DB7.00/20	Own	4-3⅛x4⅜	Own	U 4	No	Own	SF	H	5.85	36.1	7x2¼x⅜	C
13	. . . . . UG-30	1½-2	525	131	157	8200	2490	B6.00/20	P32x6	Own	4-3⅜x4⅜	Own	U 4	No	Own	SF	H	5.85	36.1	7x2¼x⅜	C
14	. . . . . G30	1½-2	585	131	157	8275	2560	B6.00/20	P32x6	Own	4-3⅜x4⅜	Own	U 4	No	Own	SF	H	5.85	36.1	7x2¼x⅜	C
15	. . . . . (5a) H30	1½-2	490	131	157	8400	2612	B6.00/20	P32x6	Own	4-3⅜x4⅜	Own	U 4	No	Own	SF	H	5.85	37.4	6⅜x2¼x⅜	C
16	. . . . . F-35	1½-2½	1425	140	165	10175	3780	B6.00/20	DB6.00/20	Own	4-3⅜x3⅞	Own	U 4	No	Own	SF	H	6.38	41.4	7½x2⅛x¼	C
17	. . . . . G43	2-3	795	136	165	10500	3345	B7.00/20	DB7.00/20	Own	4-3¼x4⅜	Own	U 5	No	Own	SF	H	6.37	50.9	8¼x2⅜x¼	C
18	. . . . . H43	2-3	795	136	165	11000	3350	B7.00/20	DB7.00/20	Own	4-3¼x4⅜	Own	U 5	No	Own	SF	H	6.37	46.0	8⅛x2⅜x¼	C
19	. . . . . F-40	2-3½	1995	150	190	16000	5173	B6.50/20	DB6.50/20	Own	4-3⅜x5	Own	U 4	No	Own	SF	H	6.38	43.7	9½x3⅛x⅜	C
20	. . . . .	3-4	1515	135	185	12250	4235	P32x6	DP32x6	Own	6-3⅜x4⅛	Own	U 4	No	Own	SF	H	7.12	48.8	10x3¼x½	C
21	. . . . . (5) F-61	3-5½	2575	170	195	20000	5789	P32x6	DP32x6	Own	6-3⅜x5	Own	U 4	No	Own	SF	H	7.71	69.6	10x3⅛x¼	C
22	. . . . . (5) G-82	4-7½	5350	195	220	25000	8040	B9.75/20	DB9.75/20	Own	8-3½x5	Own	U 5	No	Own	SF	H	7.71	69.6	10x3⅛x¼	C
23	Fageol 102	1½-2½	1250	148	172	11200	3825	B6.00/20	DB6.00/20	Wau ZK	6-3⅜x4½	WG T9	U 4	No	Tim 53200H	BF	H	5.66	36.2	6x3x⅞	C
24	 101	1½-2½	1150	143	167	10000	3700	B6.00/20	DB6.00/20	Wau XAK	4-3¾x4¾	WG T9	U 4	No	Tim 53600H	B½	H	5.14	32.9	5½x3x¼	C
25	 106	1½-2½	1600	161	173	11200	3975	B7.00/20	DB7.00/20	Wau TS	6-3½x4¾	WG T9	U 4	No	Tim 53200H	BF	H	5.66	36.2	5½x3x¼	C
26	 135	2-3	1850	161	177	13400	5150	B7.50/20	DB7.00/20	Wau TL	6-3⅜x4¾	WG T9	U 4	No	Tim 54200H	BF	H	5.83	37.3	5½x3x¼	C
27	 250	2½-4	2450	178	196	16300	5750	B8.25/20	DB8.25/20	Wau MK	6-4¼x4¾	BL 314	U 4	No	Tim 56200H	BF	H	6.16	40.6	8x3x¼	T
28	 300	3-5	3100	178	196	19500	6500	B9.00/20	DB9.00/20	Wau MK	6-4¼x4¾	BL 314	U 4	No	Tim 58200H	BF	R	6.83	45.1	8x3x¼	T
29	 370	5-7	4600	182	200	25300	8080	B9.75/20	DB9.75/20	Wau SRK	6-4⅜x5⅛	BL 554	U 4	A 3	Tim 65706	WF	R	5.69	139.	7½x3½x⅛	T
30	Federal . . . . . DM	. . . . .	900	120	120	8000	3050	B6.00/20	P32x6	Con W10	4-3⅞x4¼	WG T9	U 4	No	Cla B374	SF	H	5.67	38.2	6x2¾x¼	D
31	. . . . . 15A	1½	695	137	174	10000	3500	B6.00/20	P32x6	Her JXA	6-3⅜x4¼	WG T9	U 4	No	Cla B374	SF	H	6.38	40.8	8½x2⅞x⅜	D
32	. . . . . 20A	2	1095	137	187	12000	3900	B6.50/20	DB6.50/20	Her JXB	6-3⅜x4¼	WG T9	U 4	No	Tim 54200H	SF	H	6.80	43.5	8½x2⅞x⅜	D
33	. . . . . 25A	2½	1395	137	201	14000	4500	B7.00/20	DB7.00/20	Her JXC	6-3¾x4¼	Cla R100	U 5	No	Cla B640	SF	H	6.38	45.2	8½x2⅞x⅜	T
34	. . . . . T3W	2½	1595	148	185	14000	5110	P32x6	P36x8	Wau V	4-4x5	Own 7754	A 4	No	Tim 64603H	W½	R	7.25	36.3	6x3½x¼	C
35	. . . . . T3WFA	2½-3	1795	148	185	16000	5400	P32x6	DP32x6	Wau V	4-4x5	Own 7754	A 4	No	Tim 65001H	WF	R	8.75	43.8	6x3½x¼	C
36	. . . . . A7	2½-3	1945	175	237	15000	6050	B8.25/20	DB8.25/20	Wau 6MS	6-3¼x4¾	Cla R100	A 5	No	Cla B642	SF	H	6.43	45.5	10x3½x¼	C
37	. . . . . A8-A8DR	3½-4	2295	175	237	18000	6550	B9.00/20	DB9.00/20	Wau 6MK	6-4½x4¾	Cla R900	A 5	No	Tim 58200H	S/2F	H	6.83	55.5	10x3¼x¼	C
38	. . . . . T10B	3½-4	2550	165	230	19000	6645	P34x7	DP34x7	Con 18R	6-4x4½	Own 7784	A 4	No	Tim 58200H	BF	R	6.83	44.5	7½x3½x¼	C
39	. . . . T10DR-T10W	3½-4	2685	165	230	19000	6645	P34x7	DP34x7	Con 18R	6-4x4½	Own 7784	A 4	No	Tim 65200H	w/2F	R	6.75	44.0	7½x3½x¼	C
40	. . . . . A600	2½-3	1745	157	206	15000	5050	B7.50/20	DB7.50/20	Con E600	6-3½x4½	Own 7784	A 4	No	Cla B610	SF	H	6.38	38.5	6x3½x¼	C
41	. . . . . A600T	3-3½	2045	157	206	17000	6100	B8.25/20	DB8.25/20	Con E601	6-3½x4½	Own 7784	A 4	No	Tim 58000H	SF	H	7.8	50.8	6x3½x¼	C
42	. . . . A600TDR-A600TW	3-3½	2180	157	206	17000	6100	B8.25/20	DB8.25/20	Con E601	6-3½x4½	Own 7784	A 4	No	Tim 65001H	w/2F	H	7.5	48.9	6x3½x¼	C
43	. . . . . U6-U6DR	4½-5	3860	165	230	22000	7420	P36x8	DP36x8	Con 20R	6-4½x4¾	Cla B 710	A 5	No	Tim 65706H	w/2F	R	7.75	50.4	7½x3½x¼	P
44	. . . . . C7-C7W	6	4485	195	249	26000	9550	B9.75/20	DB9.75/20	Con 21R	6-4⅝x4¾	Cla B 710	A 5	No	Tim 76725H	w/2F	R	7.92	51.5	7⅝x3½x⅛	P
45	. . . . . C8-C8W	6	4895	195	249	26000	9650	B9.75/20	DB9.75/20	Con 21R	6-4⅝x4¾	Cla B 710	A 5	No	Tim 76725W	w/2F	R	7.92	51.5	7⅝x3½x⅛	P
46	. . . . . X8DR-X8	7½	4335	162	186	30000	9750	S36x6	S40x14	Con B7	4-5x6	Cla B 710	A 5	No	Tim 68700DP	w/2F	R	11 7	76.0	9½x3½x¼	C
47	. . . . X8RDR-X8R	7½	4735	162	186	30000	10475	P40x8	DP40x8	Con 21R	6-4⅜x4¾	Cla B 710	A 5	No	Tim 68702DP	w/2F	R	11.7	76.0	9½x3½x¼	C
48	Ford Comm.	. . . . .	320	112	112	. . . . .	1688	B5.50/17	B5 50/17	Own	4-3⅞x4¼	Own	U 3	No	Own	S¾	U	4.1	13.9	6x1¾x.105	C
49	. . . . . Truck	. . . . .	470	131	131	. . . . .	2864	B6.00/20	P32x6	Own	4-3⅞x4¼	Own	U 4	No	Own	S¾	U	6.6	42.2	7x2¾x⅜	C
50	. . . . . Truck	1½	500	157	157	. . . . .	3140	B6.00/20	P32x6	Own	4-3⅞x4¾	Own	U 4	No	Own	S¾	U	6.6	42.2	7x2¾x⅜	C
51	FWD. H4	1½-2	3325	120	160	11000	5300	P34x7	P34x7	Wis SU	4-4x5	Cot A	A 4	Op	Own H	BF	H	7.86	38.0	5⅛x2¼x⅛	C
52	(All 4Wh.Dr.) H6	2-2½	3385	133	180	13000	5900	P9.00/20	P9.00/20	Wau MS	6-3¾x4¾	BL 51	U 4	No	Own H	BF	H	8.92	47.7	5⅞x2¼x⅛	C
53	. . . . . HH-6	2½-3	4135	138	170	16000	6900	P9.75/20	P9.75/20	Wau MK	6-4⅛x4¾	BL 55	A 7	R 2	Own U	BF	H	6.95	84.7	5⅛x2¼x⅛	C
54	. . . . . B	3	4200	124	156	15500	6460	S36x6	S36x6	Own A	4-4¾x5½	Cot DAF	A 3	Op	Own B	BF	H	8.9	35.6	5⅛x2¼x⅛	C
55	. . . . . CU-6	3½-4	4985	147	179	19500	8000	B10.50/20	B10.50/20	Wau SRS	6-4⅛x5⅛	Own U	A 5	Op	Own U	BF	H	8.9	88.6	7⅞x⅜	C
56	. . . . . CU6A	3½-4	4685	147	179	19000	7800	B10.50/20	DB10.50/20	Wau SRS	6-4½x5⅛	BL 615	U 5	Op	Own U	BF	H	8.72	55.2	7⅞x⅜	C
57	. . . . . SSU	4-5	5135	147	179	22000	8300	B11.25/20	B11.25/20	Wau SRL	6-4¾x5⅛	Own U	A 5	Op	Own U	BF	H	8.9	88.6	7⅞x⅜	C
58	. . . . . SSUA	4-5	4835	147	179	21500	8100	B11.25/20	B11.25/20	Wau SRL	6-4¾x5⅛	BL 706	U 5	Op	Own M	BF	H	7.35	73.	7x3x⅜	C
59	. . . . . M5	5-7½	7400	165	195	29500	11200	B12.75/20	DB12.75/20	Wau SRK	6-4¾x5⅛	BL 714	U 4	A 2	Wis 131W	2F	H	10.0	207.	8x3x⅜	C
60	. . . . . MF6	5-6	5785	147	179	24500	9100	B10.50/20	DB10.50/20	Wau SRK	6-4¾x5⅛	Own U	A 5	Op	Own M	BF	H	7.35	73.0	8x3x⅜	C
61	(Frt. Wh. Dr.) . . LBU	5-6	4800	171	Op	23500	9000	B9.00/20	DB9.00/20	Wau SRS	6-4½x5⅛	BL 55	U 4	Op	Own U	D	H	7.35	39.5	7x3x⅜	C
62	. . . . . M7	7½-10	8500	165	195	37000	12400	P40x10	DP40x10	Wau RB	6-5x5¾	BL 714	U 4	A 2	Wis 131W	2F	H	8.36	173.	10x3x⅜	C
63	. . . . . (T) 72-T	25-30	7000	120	Op	72000	10450	B9.75/20	DB9.75/20	Wau 125	6-4¾x5½	BL 724	U 4	No	Wis 1237	2F	H	6.7	47.4	8x3x¼	C
64	General Mot. (6) T15	½-1½	645	130	141	6500	2625	B5.50/20	B5.50/20	Own 200	6-3⅛x3⅞	Own	U 3	No	Own	S½	U	4.86	16.1	6x2¼x⅛	TL
65	. . . . . T18	1½-2	595	131	157	8200	2785	P30x5	P32x6	Own 200	6-3⅛x3⅞	Own	U 4	No	Own	S½	U	5.43	35.7	7x2¼x⅛	TL
66	. . . . . T18	1½-2	675	131	157	8500	3130	P30x5	P32x6	Own 221	6-3⅛x4⅝	Own	U 4	No	Own	S½	U	5.43	35.7	7x2⅝x¼	T
67	. . . . . T19	1½-2½	745	130	164	10000	3110	B5.50/20	P32x6	Own 200	6-3⅛x3⅞	Own	U 4	Op	Own	SF	H	6.2	40.7	6x2¼x⅜	TL
68	. . . . . T25	1½-2	1200	130	152	9000	3375	B6.00/20	B7.50/20	Buick	6-3⅛x4⅝	Own	U 4	No	Own	S½	H	5.83	40.6	6x2¼x⅜	TL
69	. . . . . T23	2-3	745	131	157	10000	3080	B6.50/20	DB6.50/20	Own 200	6-3⅛x3⅞	Own	U 4	Op	Own	SF	H	6.2	40.7	6x2¼x⅜	TL
70	. . . . . T23	2-3	795	131	166	10500	3420	B6.50/20	DB6.50/20	Own 221	6-3⅛x4⅝	Own	U 4	No	Own	SF	H	5.67	37.3	7x2⅝x¼	TL
71	. . . . . T26	2-3	1210	130	164	11000	3685	B6.50/20	B8.25/20	Own 257	6-3⅛x4⅝	Own	U 4	No	Own	SF	H	5.67	35.7	6½x2¼x¼	TL
72	. . . . . T30	2-3	1545	141	164	12500	4490	P30x5	DP32x6	Buick	6-3⅛x4⅝	Own	U 4	No	Own	S½	H	5.63	28.6	6x3x⅛	TL
73	. . . . . T31	2½-4	1695	141	181	14000	4695	P32x6	DP32x6	Own 257	6-3⅛x4⅝	Own	U 4	No	Own	SF	H	5.63	35.5	6x3x⅛	TL
74	. . . . . T33	3-3½	1225	142	184	13000	4415	P32x6	DP32x6	Own 257	6-3⅛x4⅝	Own	U 4	Op	Own	SF	H	5.63	35.5	8x3x¼	T
75	. . . . . T42	2½-4	1845	141	181	15000	4725	P32x6	DP32x6	Buick	6-3⅛x4⅝	Own	U 4	No	Own	S½	H	6.57	33.4	6x3x⅛	TL
76	. . . . . T43	3½-4½	1525	142	184	16000	4935	P32x6	DP32x6	Own 257	6-3⅛x4⅝	Own	U 4	Op	Own	SF	H	6.57	41.4	8x3x¼	T
77	. . . . . T44	3-4½	2065	141	181	16000	5095	P34x7	DP34x7	Buick	6-3⅛x4⅝	Own	U 4	No	Own	2½	R	8.05	40.9	6x3x⅛	TL
78	. . . . . T45	3-4½	1865	141	181	16000	4910	P32x6	DP32x6	Own 257	6-3⅛x4⅝	Own	U 4	No	Own	SF	R	6.57	41.4	6x3x⅛	TL
79	. . . . . T51	4-5½	2480	155	200	19000	6090	P34x7	DP34x7	Own 331	6-3¾x5	Own	U 4	No	Own	SF	R	6.57	40.6	9x3½x½	TL
80	. . . . . T51W	5-6½	2700	154	200	22000	6980	P34x7	DP34x7	Own 331	6-3¾x5	Own	U 4	Op	Own	2F	R	8.50	52.5	9x3½x½	TL
81	. . . . . T51H	5-6½	2800	154	200	22000	6910	P34x7	DP34x7	Own 331	6-3¾x5	Own	U 4	Op	Own	2F	R	8.50	52.5	9x3½x½	TL
82	. . . . . T60	5-6½	3035	154	200	22000	6925	P34x7	DP34x7	Buick	6-3¾x5	Own	U 4	Op	Own	WF	R	8.50	52.5	9x3½x½	TL
83	. . . . . T61	5-6½	3710	154	200	22000	7380	B9.00/20	DB9.00/20	Own 400	6-4½x5	Own	U 5	Op	Own	WF	R	8.50	69.9	9x3½x½	TL
84	. . . . . T82	5-7	3795	155	201	24000	7500	B9.00/20	DB9.00/20	Own 331	6-3¾x5	Own	U 4	A 3	Own	WF	R	10.2	143	9x3½x½	TL
85	. . . . . T83	5-7½	4205	155	201	25000	7765	B9.00/20	DB9.00/20	Own 400	6-4½x5	Own	U 5	Op	Own	WF	R	9.00	74.0	9x3½x½	TL
86	. . . . . T-84	5-8	4745	171	204	28000	9170	B9.75/20	DB9.75/20	Own 400	6-4½x5	Own	U 4	Op	Own	2F	R	8.5	53.9	9x4x⅛	L
87	. . . . . T-84SX	7½	***	201	201	25000	9850	B10.50/20	DB10.50/20	Own 400	6-4½x5	Own	U 4	No	Own	2F	R	10.1	64.2	9x4x⅛	L
88	. . . . . T85	5-8	5600	171	204	30000	10530	B9.75/20	DB9.75/20	Own 525	6-4½x5½	Own	U 4	Op	Own	2F	R	8.50	53.3	9x4x⅛	L
89	. . . . . T85H	8-9½	6195	171	204	34000	11060	B9.75/20	DB9.75/20	Own 525	6-4½x5½	Own	U 4	Op	Own	2F	R	9.30	58.3	9x4x⅛	L
90	. . . . . T110	10-12	8110	171	204	40000	12800	B10.50/24	DB10.50/24	Own 616	6-4½x5½	Own	U 4	A 3	Own	2F	R	9.30	116.	9x4x⅛	L
91	Gramm AX4	1-1½	795	131	157	8000	3350	B6.50/20	B6.50/20	Con W10	4-3⅞x4¼	WG TA	U 4	No	Tim 53200H	BF	H	5.66	36.3	6x2¾x¼	L
92	. . . . . AX6	1-1½	895	131	157	8000	3550	B6.50/20	B6.50/20	Con 25A	6-3⅝x4	WG T9	U 4	No	Tim 53200H	BF	H	5.66	36.3	6x2¾x¼	L
93	. . . . . BX4	1½-2	895	131	210	10000	3525	B6.00/20	DB6.00/20	Con W10	4-3⅞x4¼	WG T9	U 4	No	Tim 53200H	BF	H	6.2	39.6	6x2¾x¼	L
94	. . . . . BX6	1½-2	995	131	210	10000	3725	B6.00/20	DB6.00/20	Con 25A	6-3⅝x4	WG T9	U 4	No	Tim 53200H	BF	H	6.2	39.6	6x2¾x¼	L
95	. . . . . BXF	1½-2	149.	131	210	10000	4000	B6.00/20	DB6.00/20	Lyc ASD	6-3¼x4½	BL 314	U 4	No	Tim 53200	BF	H	5.6	37	6x2¾x¼	L
96	. . . . . B	1½	1295	140	196	12000	4150	B6.50/20	DB6.50/20	Lyc 4SL	6-3¼x4½	Co A4J	U 4	No	Tim 54200H	BF	H	5.83	37.1	6x2½x¼	L
97	. . . . . BF	2-3	1695	140	210	12000	4300	B6.50/20	DB6.50/20	Lyc AED	6-3¾x4½	BL 314	U 4	No	Tim 54200	BF	H	5.8	37.1	6x2½x¼	L
98	. . . . . CX4	2-3	1095	131	210	12000	3950	B6.50/20	DB6.50/20	C n W20	4-4¼x4¼	WG T9	U 4	No	Tim 54200H	BF	H	5.8	37.0	10x2¾x¼	B
99	. . . . . CX6	2-3	1295	131	210	12000	4150	B6.50/20	DB6.50/20	Con 16C	6-3⅜x4⅝	WG T9	U 4	No	Tim 54200H	BF	H	5.8	37.0	10x2¾x¼	B
100	. . . . .	2-3	1795	140	210	14000	4820	B7.00/20	DB7.00/20	Lyc AS	6-3⅝x4½	BL 314	U 4	No	Tim 54200 H	BF	H	5.8	37.1	7x2½x¼	L
101	. . . . . CXH	2-3	1345	131	210	13400	4300	B6.50/20	DB6.50/20	Her JXC	6-3⅜x4¼	BL 234	U 4	No	Tim 54200	BF	H	5.8	37.0	10x2¾x¼	C
102	. . . . . CF	2-3½	1895	160	224	14000	4900	B7.50/20	DB7.50/20	Lyc ASD	6-3¼x4½	BL 314	U 4	No	Tim 54200	BF	H	5.8	37.1	7x2½x¼	L
103	. . . . . CXF	2-3½	2395	160	224	14000	5100	B7.50/20	DB7.50/20	Con 20R	6-4¼x4¼	BL 554	U 4	No	Tim 54200	BF	H	5.8	41.6	7x2½x¼	L
104	. . . . . D	2½-4	1995	160	224	17000	5100	B7.50/20	DB7.50/20	Lyc ASD	6-3¼x4½	BL 314	U 4	No	Tim 56200H	BF	H	6.1	39.0	7x2½x¼	L
105	. . . . . DF	2½-4	2695	160	260	17000	5300	B7.50/20	DB7.50/20	Con 21R	6-4⅝x4¾	BL 554	U 4	No	Tim 56200	BF	H	6.1	43.5	7x2½x¼	C
106	. . . . . EX	3-4	2295	160	224	16300	5200	B8.25/20	DB8.25/20	Con E601	6-3¾x4½	BL 324	U 4	No	Tim 58200H	BF	H	6.5	43.5	7x2½x¼	C
107	. . . . . E330	3-4½	2595	160	224	20000	5950	B8.25/20	DB8.25/20	Lyc TS	6-3⅞x5	BL 554	U 4	No	Tim 58200H	BF	H	6.5	35.6	12x2½x¼	P
108	. . . . . ED	3-4½	3995	160	224	20000	6100	B8.25/20	DB8.25/20	Cum Die	4-4¼x6	BL 554	U 4	No	Tim 58200	BF	H	6.5	35.6	12x2½x¼	P
109	. . . . . EY190	3	3595	190	190	16000	6750	B7.50/20	DB7.50/20	Con 20R	6-4¼x4¾	Co Rus4	U 4	No	Wis 69317H	2F	H	4.3	27.9	8¾x3¼x¼	L
110	. . . . . GY	4	4345	190	210	18000	7700	B8.25/20	DB8.25/20	Con 21R	6-4⅜x4¾	Co Rus	U 4	No	Wis 1237H	2F	H	6.8	49.0	12x2½x¼	L
111	. . . . . G	4-6	3695	150	225	24000	7950	B9.00/20	DB9.00/20	Con 21R	6-4⅜x4¾	BL 554	U 4	No	Wis 1237H	2F	H	4.29	15.8	12x2½x¼	L
112	. . . . . GF	4-6	5500	150	225	24000	9050	B9.75/20	B9.75/20	Her HXC	6-5¼x6	BL 744	U 4	No	Wis 1627KW	2F	H	6.3	41.0	7½x3¼	L
113	. . . . . GW	5-7½	5175	157	240	29000	9500	B9.00/20	DB9.00/20	Con 21R	6-4⅜x4¾	BL 554	U 4	No	Wis 1737KW	2F	H	5.75	21.2	12x3x¼	L
114	. . . . . GWD	5-7½	6495	157	240	30000	10000	B10.50/20	D10.50/20	Cum H Die.	6-4⅞x6	BL 735	U 5	No	Wis 1737KW	2F	H	5.75	21.2	12x3x¼	L
115	. . . . . HY	5	6595	210	236	22000	10100	B9.00/20	D10.00/20	Con 16H	6-4¾x5¾	Fu HU16	U 4	No	Wis12527KW	2F	H	4.0	25.2	8¾x3¼x¼	L
116	G.-P. . . . . (7) 635	2-3	1445	154	160	15000	3650	B7.00/20	DB7.00/20	Lyc 8B	6-3¾x4½	Fu MKU	U 4	No	Tim 53200H	SF	H	6.3	42.9	9x⅛x3	TL
117	 645	2½-3½	2425	154	175	18000	5775	B8.25/20	DB8.25/20	Wa 6-90-255	6-3¾x4¾	Fu 5A380	U 5	No	Tim 58200H	SF	H	6.5	47.8	10x3½x⅛	TL
118	. . . . . (7) 665	3½-5	4170	162	179	20000	7600	B9.00/20	DB9.00/20	Wa6-110-358	6-4x4¾	Fu 5A380	U 5	No	Wis 70000L	2F	R	8.0	56.0	12x3½x⅛	TL
119	. . . . . (7) 675	5-7	5445	162	179	25000	9450	B9.75/20	DB9.75/20	Wa6-125-462	6-4⅜x5½	Fu VUOG	U 5	No	Wis 1137H	2F	R	6.0	61.0	14x3½x⅛	TL
120	Hendrickson. . . . 158	2½	2300	Op	Op	15000	6000	B7.50/20	DB7.50/20	Wau 6-90	6-3⅝x4¾	Fu MLU	U 4	No	Tim 54200H	SF	H	Opt	Opt	8x3x⅜	C
121	 178	3	2800	Op	Op	17000	6500	B8.25/20	DB8.25/20	Wau 6-110	6-4x4¾	Fu 5A38	U 5	No	Tim 58200H	SF	H	Opt	Opt	8x3x⅜	C
122	 248	4	4700	Op	Op	24000	8200	B9.00/20	DB9.00/20	Wau 6-125	6-4½x5½	Fu 5A53	U 5	No	Tim 75720H	w/2	R	Opt	Opt	8x3x⅜	P
123	 328	5	6200	Op	Op	32000	10600	B9.75/20	DB9.75/20	Wau 6-RB	6-5x5¾	BL 70-7	A 7	No	Tim 76730H	w/

Line Number	ENGINE DETAILS: Piston Displacement	Compression Ratio	Torque lb. ft.	N.A.C.C. Rated H.P.	Max. Brake H.P. at R.P.M. Given	Valve Arrangement	Camshaft Drive	Piston Material	MAIN BEARINGS: Number and Diameter	MAIN BEARINGS: Length	Oiling System Type	Governor Make	FUEL SYST.: Carburetors Make	FUEL SYST.: Fuel Feed	ELECTRICAL: Ignition System Make	ELECTRICAL: Generator, Starter Make	Clutch Type and Make	Radiator Make	Universals Make	FRONT AXLE: Make and Model	Steering Gear Make	BRAKES: SERVICE: Make, Location Type, Operation	BRAKES: SERVICE: Lining Area	BRAKES: SERVICE: Drum Material	Hand Type, Location	BODY MOUNTING DATA: Cab to Rear of Frame	BODY MOUNTING DATA: Cab to Rear Axle	BODY MOUNTING DATA: Width of Frame	SPRINGS: Front	SPRINGS: Rear	Auxiliary Type
1	428	4.4	280	45.9	93–2200	L	G	C	7-3	14	PC	Ha	Zen	M	AL	AL	D.Co	GO	Spi	Shu 5582B	Ros	L4IHV	490	a	TD	120	79½	34	45¼ x2½	56x3	½
2	384	5.0	258	43.3	107–2800	L	G	A	7-2⅝	13¼	PC	Ha	Zen	M	AL	AL	P.BB	GO	Spi	Shu 5582B	Ros	L4IHV	490	a	TD	120	74½	34	45½ x2½	56x3	½
3	501	4.4	330	48.6	110–2200	L	G	C	7-3	12½	PC	Ha	Zen	M	AL	AL	D.Co	GO	Spi	.....	Ros	L4IHV	499	a	TD	138	89¼	34	46x3	56x3	½
4	529	4.4	350	51.3	114–2200	L	G	C	7-3	12½	PC	Ha	Zen	M	AL	AL	D.Co	GO	Spi	Shu 678–28	Ros	Ws 4IA	552	a	TD	138	89¼	34	46x3	56x3½	½
5	529	4.4	350	51.3	114–2200	L	G	C	7-3	12½	PC	Ha	Zen	M	AL	AL	D.Co	GO	Spi	.....	Ros	L4IHV	...	...	TD	138	89¼	34	46x3	56x3	½
6	707	...	455	60.0	148–2000	L	G	C	7-3½	17	PC	Ha	Zen	M	AL	AL	D.BL	GO	Spi B	.....	Ros	Ws 41A	...	a	TD	.....	.....	.....	46x3	56x4	½
7	299	4.9	198	33.7	85–2800	L	G	C	4-2⅝	9¼	PC	Mo	Til	M	AL	AL	D.BL	Pe	Blo	Tim 33000H	Ros	L4IHV	375	a	FD	120	77¼	34	42x2¼	50x3	½
8	190	5.5	130	23.4	70–3600	L	G	A	4-2¼	4⅞	CC	No	Car	M	DR	DR	P.BB	Fe	Own	Own	Own	O4IH	107	c	TX	52½	25⅞	44⅞	36x1½	53½x1½	N
9	201	5.5	130	23.4	70–3600	L	G	A	4-2¼	4⅞	CC	No	Car	M	DR	DR	P.BB	Fe	Own	Own	Own	O4IH	107	c	TX	60½	33⅛	44⅛	36x1½	53½x1½	N
10	196	4.6	124	21.0	48–2800	L	G	A	3-2¼	6⅛	CC	No	Car	M	DR	DR	P.BB	Fe	Own	Own	Own	O4IH	175	a	TX	91½	50½	34	36x1¾	48x2¼	N
11	201	5.0	132	23.5	62–3000	L	C	S	4-2¼	6¼	CC	No	Car	M	DR	DR	P.BB	Fe	Own	Own	Own	O4IH	175	a	TX	91½	50½	34	36x1¾	48x2¼	N
12	337	5.0	132	23.5	62–3000	L	C	S	4-2¼	4.82	CC	No	Car	M	DR	DR	P.BB	Fe	Own	Own	Own	O4IH	175	a	TX	94⅛	46½	34	36x1¾	48x2¼	N
13	196	4.6	124	21.0	48–2800	L	G	A	3-2¼	6¼	CC	No	Car	M	DR	DR	P.BB	Fe	Own	Own	Own	O4IH	175	a	TX	91½	50½	34	36x1¾	48x2¼	N
14	201	5.0	132	23.5	62–3000	L	C	S	4-2¼	6¼	CC	No	Car	M	DR	DR	P.BB	Fe	Own	Own	Own	O4IH	175	a	TX	91½	50½	34	36x1¾	48x2¼	N
15	201	5.0	132	23.5	62–3000	L	C	S	4-2¼	4.82	CC	No	Car	M	DR	DR	P.BB	Fe	Own	Own	Own	O4IH	175	a	TX	94⅛	46½	34	36x1¾	48x2¼	N
16	208	5.1	132	27.3	63–3200	L	C	S	7-2⅝	10⅛	CC	Ha	Car	M	DR	DR	P.BB	Fe	Own	Own	Ha	O4IH	305	a	TX	119⅞	62¾	34	40x2½	56x3	N
17	217	5.8	144	25.3	75–3200	L	C	S	4-2¼	6¼	CC	Ha	Car	M	DR	DR	P.BB	Fe	Own	Own	Own	O4IH	229	a	TX	145	84⅛	38⅛	39x2	48x2½	½
18	217	5.0	148	25.3	77–3200	L	C	S	4-2¼	5.34	CC	Ha	Car	M	DR	DR	P.BB	Fe	Own	Own	Own	O4IH	229	a	TX	87½	51½	37⅛	39x2	48x2½	½
19	309	4.7	200	31.5	96–3000	L	G	S	7-2⅝	11¾	CC	Ha	Det	M	DR	DR	P.BB	Lo	Own	Own	Jac	O4IH	350	a	CD	124⅛	69¾	33⅛	42x3	56½x3½	N
20	241	5.3	167	39.2	78–3000	L	C	S	7-2⅞ r	11	CC	KP	Zen	V	NE	NE	P.BB	Lo	Own	Own	Ha	O4IH	382	p	TX	82¼	54¾	34	39x2½	45x3	N
21	309	4.7	200	21.0	96–3000	L	G	S	7-2⅝	11¾	CC	Ha	Det	M	DR	DR	P.BB	Fe	Own	Own	Jac	O4IHV	416	a	CD	149⅛	89¼	34	42x3	56x3½	½
22	384	5.0	262	25.3	115–3000	L	G	S	9-2¾	13	CC	Ha	Str	M	DR	DR	P.BB	Fe	Own	Own	Jac	BWs41A	650	a	CD	149⅛	89¾	34⅞	42x3	56x3½	½
23	222	4.9	140	27.3	59–2500	L	G	A	4-2⅜	6½	FP	No	Zen	M	DR	DR	P.Lo	Pe	Spi	Tim 30010H	Ros	L4IH	257	H	TX	120	65¾	34	32¾ x2	50x2½	½
24	210	4.3	130	22.5	40–2150	L	G	A	3-2¼	6⅛	FP	No	Zen	M	DR	DR	P.Lo	Pe	Spi	Tim 30010H	Ros	L4IH	257	H	TX	120	65¾	34	32¾ x2	50x2½	½
25	219	5.2	137	23.5	58–2500	L	G	A	4-2¾	7⅝	FP	No	Zen	M	DR	DR	P.Lo	Pe	Spi	Tim 30010H	Ros	L4IH	257	H	TX	132	72	34	32¾ x2½	50x2½	½
26	255	5.1	170	27.3	68–2500	L	G	A	4-2¾	7⅝	FP	No	Zen	M	DR	DR	P.Lo	Pe	Spi	Tim 31000H	Ros	L4IH	306	G	TX	144	71½	34	37x2½	56x3	½
27	381	4.4	240	40.8	82–2200	L	G	A	7-2¾	12½	PC	No	Zen	M	DR	DR	P.BL	Pe	Spi	Tim 33020H	Ros	L4IHV	355	G	TX	167½	97½	34	41x2½	56x3	½
28	381	4.4	240	40.8	82–2200	L	G	A	7-2⅝	12½	PC	No	Zen	M	DR	DR	P.BL	Pe	Spi	Tim 33020H	Ros	L4IHV	398	G	TX	167½	97½	34	41x2½	56x3	½
29	517	4.5	340	51.3	108–2000	L	G	A	7-3	13½	PC	No	Zen	M	DR	DR	P.BL	Pe	Spi	Tim 35000H	Ros	L4IHV	717	G	FD	172⅞	101⅝	33½	41x3	56x3½	½
30	200	4.7	126	24.0	50–2700	L	C	A	3-2⅛	5⅞	CC	KP	Car	M	DR	DR	P.BB	Lo	Spi	Cla F212	Ge	L4IH	200	a	TX	.....	.....	34	38½ x2¼	50x2½	N
31	228	4.7	142	27.3	58–2600	L	G	C	7-2½	10⅛	PC	Mo	Car	M	DR	DR	P.BB	Lo	Spi	Cla F212	Ge	L4IH	191	a	TX	101	51½	34	38x2½	50x2½	N
32	263	5.4	164	31.5	67–2500	L	G	A	7-2½	10⅛	PC	Mo	Car	M	DR	DR	P.BB	Lo	Spi	Tim 31020H	Ge	L4IH	269	a	TX	101	51½	34	38x2½	50x2½	½
33	282	5.4	176	33.7	72–2600	L	G	A	7-2½	10⅛	PC	Mo	Car	M	DR	DR	P.BB	Lo	Spi	Cla F304	Ge	L4IH	315	a	TD	101	51½	34	38x2½	50x3	½
34	251	4.1	162	25.6	50–2000	L	G	C	3-2⅜	7½	CC	Wa	Zen	V	DR	DR	P.BB	Lo	PS	Own 7720	Ros	L4IH	337	a	TI	119	71	34	38x2½	52x3	½
35	251	4.1	162	25.6	50–2000	L	G	C	3-2⅜	7½	CC	Wa	Zen	V	DR	DR	P.BB	Lo	PS	Own 7720	Ros	L4IHV	379	a	TI	119	71	34	38x2½	51¾x3	½
36	315	5.0	200	33.8	73–2500	L	G	A	7-2⅝	12½	FP	Wa	Zen	M	DR	DR	P.BB	Lo	Spi	Cla F318	Ge	L4IHV	315	a	FD	115	82	34	42x2½	52x3	½
37	381	4.8	240	40.8	85–2400	L	G	A	7-2⅝	12½	FP	Wa	Zen	M	DR	DR	P.BB	Lo	Spi	Cla F318	Ros	L4IHV	379	a	FD	115	82	34	42x2½	52x3	½
38	339	4.2	212	38.4	80–2200	H	C	C	7-2¾	13⅛	CC	KP	Zen	M	DR	DR	P.BB	Lo	PS	Own 7738	Ros	L4IHV	379	a	TI	117	79	34	42x2½	54x3	½
39	339	4.2	212	38.4	80–2200	H	C	C	7-2¾	13⅛	CC	KP	Zen	M	DR	DR	P.BB	Lo	PS	Own 7738	Ros	L4IHV	379	a	TI	117	79	34	42x2½	54x3	½
40	293	4.6	181	22.6	73–2600	L	G	C	7-2⅝	12⅛	CC	KP	Zen	M	DR	DR	P.BB	Lo	PS	Cla F304	Ros	L4IH	270	a	TI	113	71	34	40x2¼	52x3	½
41	318	4.6	202	36.0	80–2500	L	G	C	7-2⅝	12⅛	CC	KP	Zen	M	DR	DR	P.BB	Lo	PS	Cla F318	Ros	L4IHV	379	a	TI	113	71	34	40x2¼	52x3	½
42	318	4.6	202	36.0	80–2500	L	G	C	7-2⅝	12⅛	CC	KP	Zen	M	DR	DR	P.BB	Lo	PS	Cla F318	Ros	L4IHV	379	a	TI	113	71	34	40x2¼	52x3	½
43	381	4.2	237	40.8	85–2200	H	C	C	7-2¾	13⅞	CC	KP	Zen	M	DR	DR	P.BB	Lo	Spi	Own 7720	Ros	L4IHV	465	a	TD	117	79	34	42x2½	54x3	½
44	428	4.2	268	45.9	100–2200	H	C	C	7-2¾	13⅞	CC	KP	Zen	M	DR	DR	P.BL	Lo	Spi	Tim 36020H	Ha	L4IHV	513	a	TD	162	102	34	42x3	56x3½	½
45	428	4.2	268	45.9	100–2200	H	C	C	7-2¾	13⅞	CC	KP	Zen	M	DR	DR	P.BL	Lo	Spi	Tim 36020W	Ha	W41A	623	a	TD	162	102	34	42x3	56x3½	½
46	471	3.7	288	40.0	61–1350	L	G	C	3-2⅝	11⅛	FP	Pe	Zen	V	AB	DR	P.BB	Lo	PS	Own 5008	Ge	T21MV	568	a	RI	151	87	38	44x3	56x3½	½
47	428	4.2	268	45.9	100–2200	H	C	C	7-2¾	13⅞	CC	KP	Zen	M	DR	DR	P.BL	Lo	PS	Own 5008	Ros	T21MV	458	a	RI	151	87	38	44x3	56x3½	½
48	200	4.6	128	24.0	50–2800	L	G	A	3-2	7	PS	No	Zen	P	Ow	Ow	P.Ow	Ow	Spi	Own	Own	O4IM	186	a	4I	.....	31½	44	31⅞ x1¾	46x2¼	½
49	200	4.6	128	24.0	50–2800	L	G	A	3-2	7	PS	No	Zen	P	Ow	Ow	P.Lo	Ow	Spi	Own	Own	O4IM	475	a	2I	94¾	51¼	38	33x2¼	50x2½	½
50	200	4.6	128	24.0	50–2800	L	G	A	3-2	7	PS	No	Zen	P	Ow	Ow	P.Lo	Ow	Spi	Own	Own	O4IM	475	a	2I	120⅞	76⅛	38	33x2½	50x2½	½
51	251	4.5	160	25.6	50–2000	H	G	C	3-2⅛ r	8	PC	No	Zen	V	AL	AL	D.DG	Pe	Blo	Own H	Ros	OT/4XM	238	G	2I	112	81	36	42¾ x2½	52¾ x2½	½
52	315	4.5	200	33.7	72–2500	L	G	C	7-2⅝	12¾	PC	Wa	Zen	V	NE	NE	D.BL	Pe	Blo	Own H	Ros	OT/4XM	252	G	2I	115½	81½	36	42¾ x2½	52¾ x2½	½
53	381	4.5	240	40.8	85–2400	L	G	C	7-2⅝	12⅞	PC	Wa	Zen	M	NE	NE	D.BL	Pe	Blo	Own U	Ros	OT/4XM	238	G	2I	126	86	36	42¾ x2½	52¾ x2½	½
54	398	4.4	210	36.1	56–1350	T	G	C	3-2	12	PC	Pe	Str	M	NE	NE	O.ME	Mc	Blo	Own B	Ros	OT/4XM	238	G	2I	130	93	36	42¾ x2½	52¾ x2½	N
55	411	4.6	265	40.8	91–2300	L	G	C	7-3	13⅞	PC	Wa	Zen	M	NE	NE	O.HS	Pe	Blo	Own U	Ros	OT/4XM	238	G	2I	132	93	36	42¾ x2½	52¾ x2½	N
56	411	4.6	265	40.8	91–2300	L	G	C	7-3	13⅞	PC	Wa	Zen	M	NE	NE	D.BL	Pe	Blo	Own U	Ha	OT/4XM	238	G	4X	132	93	36	42¾ x2½	52¾ x2½	½
57	462	4.5	300	45.9	102–2400	L	G	C	7-3	13⅞	PC	Wa	Zen	V	NE	NE	O.HS	Pe	Blo	Own M	Ros	OT/4XM	238	G	2I	132	93	36	42¾ x2½	52¾ x2½	½
58	462	4.5	300	45.9	102–2400	L	G	C	7-3	13⅞	PC	Wa	Zen	M	NE	NE	D.BL	Pe	Blo	Own M	Ha	OT/4XM	238	G	2I	132	93	36	42¾ x2½	52¾ x2½	N
59	517	4.6	330	51.3	110–2300	L	G	C	7-3	13⅞	PC	Wa	Zen	M	NE	NE	D.BL	Pe	Blo	Wis 131F	Ros	B41MV	324	G	T4	153½	110½	34	48x3½	52x4	½
60	517	4.6	330	51.3	110–2300	L	G	C	7-3	13⅞	PC	Wa	Zen	M	NE	NE	D.BL	Pe	Blo	Own M	Ros	O4TB	722	G	4X	132	93	36	42¾ x2½	54¾ x2½	½
61	411	4.6	265	40.8	91–2300	L	G	C	7-3	13⅞	PC	Wa	Zen	M	NE	NE	D.BL	Pe	Blo	Own U	Ros	O4IM	722	G	4D	Opt	Opt	42	42¾ x2½	52x4	N
62	677	4.4	460	60.	125–2000	L	G	C	4-3½	11⅞	PC	Wa	Zen	M	NE	NE	D.BL	Pe	Blo	Wis 131F	Ros	B41MV	324	G	T4	153½	110½	34	48x3½	52x4	N
63	462	...	330	45.9	125–2500	F	G	C	7-3	13⅞	PC	Wa	Zen	M	NE	NE	D.BL	Pe	Blo	Wis 1237	Ros	4A	610	G	T4	97¾	67¼	34	48x3½	52x3½	N
64	200	4.9	127	26.3	60–3000	L	C	B	3-2⅛ r	5⅝	CC	No	Ma	M	DR	DR	P.Ow	Lo	MM	Own	Jac	B4IM	211	p	4I	87	48	34	38x2	50¼ x2½	N
65	200	5.1	132	26.3	66–3200	L	C	B	3-2⅛ r	5⅞	FP	No	Ma	M	DR	DR	P.Ow	Lo	Own	Own	Jac	O4IM	175	p	2I	85½	50¼	37	36x1¾	45x2½	½
66	221	4.6	155	24.3	69–2800	H	G	B	4-2⅝	7⅛	PC	Opt	Zen	M	DR	DR	P.Ow	Hr	Own	Own	Jac	B4IM	186	p	2I	85½	50¼	37⅛	36x1¾	45x2½	O
67	200	5.1	132	26.3	66–3200	L	C	B	3-2⅛ r	5⅞	FP	No	Ma	M	DR	DR	P.Ow	Lo	Spi	Own	Jac	B4IM	290	a	TX	87	48	34	38x2	50¼ x2½	N
68	257	4.5	185	28.3	76–2500	H	G	C	4-2⅜	8⅛	PC	Ha	Ma	M	DR	DR	dp.Ow	Lo	Spi	Own	Jac	B4IM	239	pa	TX	87	48	34	38x2	50¼ x2½	N
69	200	5.1	132	26.3	66–3200	L	C	B	3-2⅛ r	5⅞	FP	No	Ma	M	DR	DR	P.Ow	Lo	Cle	Own	Jac	O4IM	175	p	2I	85½	50¼	37	36x1¾	45x2½	½
70	221	4.6	155	24.3	69–2800	H	G	B	4-2⅝	7⅛	PC	Opt	Zen	M	DR	DR	P.Ow	Hr	Cle	Own	Jac	O4IM	186	pa	2I	85½	50¼	37⅛	36x1¾	45x2½	½
71	257	4.5	185	28.3	76–2500	H	G	C	4-2⅜	8⅛	PC	Ha	Ma	M	DR	DR	dp.Ow	Lo	Spi	Own	Jac	B4IM	290	a	TX	87	48	34½	38x2	50¼ x2½	½
72	257	4.5	185	28.3	76–2500	H	G	C	4-2⅜	8⅛	PC	Ha	Ma	M	DR	DR	dp.Ow	Lo	Spi	Own	Jac	B4IM	288	a	TX	107	59	34⅛	38x2½	50x3	½
73	257	4.5	185	28.3	76–2500	H	G	C	4-2⅜	8⅛	PC	Ha	Ma	M	DR	DR	dp.Ow	Lo	Spi	Own	Jac	B4IM	345	a	TX	107	59	34⅛	38x2½	50x3	½
74	257	4.5	185	28.3	76–2500	H	G	B	4-2⅝	7⅛	PC	Ha	Zen	M	DR	DR	dp.Ow	Lo	Spi	Own	Jac	B4IM	328	a	TX	107	60	34	38x2	50x3	½
75	257	4.5	185	28.3	76–2500	H	G	C	4-2⅜	8⅛	PC	Ha	Ma	M	DR	DR	dp.Ow	Lo	Spi	Own	Jac	B4IM	320	a	TX	107	59	34⅛	38x2½	50x3	½
76	257	4.5	185	28.3	76–2500	H	G	B	4-2⅝	7⅛	PC	Ha	Zen	M	DR	DR	dp.Ow	Lo	Spi	Own	Jac	B4IM	347	a	TX	107	60	34	38x2½	50x3	½
77	257	4.5	185	28.3	76–2500	H	G	C	4-2⅜	8⅛	PC	Ha	Ma	M	DR	DR	dp.Ow	Lo	Spi	Own	Jac	B4IM	320	a	TX	107	59	34⅛	38x2½	50x3	½
78	257	4.5	185	28.3	76–2500	H	G	C	4-2⅜	8⅛	PC	Ha	Ma	M	DR	DR	dp.Ow	Lo	Spi	Own	Jac	B4IM	345	a	TX	107	59	34⅛	38x2½	50x3	½
79	331	4.4	230	33.7	94–2500	H	G	A	4-2⅛	8⅛	PC	Ha	Str	M	DR	DR	dp.Ow	Lo	Cle	Own	Jac	B4IMV	379	a	TX	125	70	34⅛	40x3	50x3	½
80	331	4.4	230	33.7	94–2500	H	G	A	4-2⅛	8⅛	PC	Ha	Str	M	DR	DR	dp.Ow	Lo	Cle	Own	Jac	B4IMV	449	a	TX	125	69¼	34⅛	40x3	54x3	½
81	331	4.4	230	33.7	94–2500	H	G	A	4-2⅛	8⅛	PC	Ha	Str	M	DR	DR	dp.Ow	Lo	Cle	Own	Jac	B4IMV	449	a	TX	125	69¼	34⅛	40x3	54x3	½
82	331	4.4	230	33.7	94–2500	H	G	C	4-2⅛	8⅛	PC	Ha	Ma	M	DR	DR	dp.Ow	Lo	Spi	Own	Jac	B4IM	418	a	TX	125	69¼	34⅛	40x3	54x3	½
83	400	4.6	296	40.9	110–2300	H	G	A	4-2⅞	8⅛	FP	Ha	Str	M	DR	DR	dp.Ow	Lo	Spi	Own	Jac	B4IMV	449	a	TX	125	69¼	34⅛	40x3	54x3	½
84	331	4.4	230	33.7	94–2500	H	G	A	4-2⅛	8⅛	PC	Ha	Str	M	DR	DR	dp.Ow	Lo	Cle	Own	Jac	B4IM	483	a	TD	125	70	34⅛	40x3	54x3	½
85	400	4.6	296	40.9	110–2300	H	G	A	4-2⅞	8⅛	FP	Ha	Str	M	DR	DR	dp.Ow	Lo	Spi	Own	Jac	B4IMV	557	a	TX	125	70	34⅛	40x3	54x3	½
86	400	4.6	296	40.9	110–2300	H	G	A	4-2/7	8⅛	FP	Ha	Str	M	DR	DR	dp.Ow	Lo	Spi	Own	Jac	B4IMV	594	a	TX	137	82	34⅛	50x3½	54x3	½
87	400	4.6	296	40.9	110–2300	H	G	A	4-2/7	8⅛	FP	Ha	Str	M	DR	DR	dp.Ow	Lo	Spi	Own	Jac	B4IMV	594	a	TX	210	117	34⅛	50x3½	54x3	½
88	525	4.5	380	48.6	128–2100	H	C	A	7-2¾	14⅛	FP	Ha	Str	M	DR	DR	dp.Ow	Lo	Spi	Own	Jac	B4IMV	594	a	TX	137	82	34⅛	50x3½	54x3	½
89	525	4.5	380	48.6	128–2100	H	C	A	7-2¾	14⅛	FP	Ha	Str	M	DR	DR	dp.Ow	Lo	Spi	Own	Jac	B4IMV	594	a	TX	137	82	34⅛	50x3½	54x3	½
90	616	4.5	450	57.0	149–2100	H	C	A	7-2¾	14⅛	FP	Ha	Str	M	DR	DR	dp.Ow	Lo	Spi	Own	Jac	B4IA	638	a	TX	137	82	34⅛	50x3½	.....	N
91	200	4.7	121	24.0	50–2800	L	C	A	3-2⅛	5⅞	P	No	Til	M	AL	AL	D.Jo	Pe	Blo	Tim 30000H	Ros	L4IH	249	p	FD	81½	51¾	34	36x2¼	45x2½	½
92	214	5.3	142	27.4	71–3200	L	C	A	4-2⅜	6⅝	FP	No	Til	M	AL	AL	D.Jo	Pe	Blo	Tim 30000H	Ros	L4IH	249	p	FD	81½	51¾	34	36x2¼	45x2½	½
93	200	4.7	121	24.0	50–2800	L	C	A	3-2⅛	5⅞	PC	No	Til	M	AL	AL	D.Jo	Pe	Blo	Tim 30000H	Ros	L4IH	249	p	FD	81¾	51½	34	36x2¼	45x2½	½
94	214	5.3	142	27.3	71–3200	L	C	A	4-2⅜	6⅝	PC	No	Til	M	AL	AL	D.Jo	Pe	Blo	Tim 30000H	Ros	L4IH	249	p	FD	81¾	51½	34	36x2¼	45x2½	½
95	299	4.9	198	33.7	85–2800	L	G	C	4-2⅜	9⅛	PC	No	Til	M	AL	AL	P.BL	Pe	Blo	Tim 30000	Ros	L4IH	249	p	FD	81¾	51½	34	36x2¼	45x2½	½
96	224	4.7	146	25.3	61–2900	L	G	C	4-2⅜	8⅛	PC	Mo	Zen	V	AL	AL	D.Jo	Pe	Blo	Tim 31000H	Ros	L4IH	260	p	FD	94	60¾	34	40x2¼	50x2½	½
97	299	4.9	198	33.7	85–2800	L	G	C	4-2⅜	9⅛	PC	No	Til	M	AL	AL	P.BL	Pe	Blo	Tim 31000	Ros	L4IH	260	p	FD	94	60¾	34	40x2¼	50x2½	½
98	227	4.7	136	27.2	55–2400	L	G	C	3-2⅛	5⅞	PC	Mo	Til	M	AL	AL	D.Jo	Pe	Blo	Tim 31000H	Ros	L4IH	269	p	FD	81	51¾	34	36x2¼	45x2½	½
99	248	5.0	150	27.3	70–3000	L	C	C	7-2⅜	10	FP	Mo	Til	M	AL	AL	D.Jo	Pe	Blo	Tim 31000H	Ros	L4IH	260	p	FD	81	51¾	34	36x2¼	45x2½	½
100	278	4.7	182	31.5	85–3300	L	G	A	4-2⅝	9¼	PC	Mo	Til	M	AL	AL	P.BL	Pe	Blo	Tim 31000H	Ros	L4IH	260	p	FD	120	77¼	34	42x2¼	56x3	½
101	282	5.4	176	32.7	73–2800	L	G	C	7-2½	10⅛	PC	Mo	Zen	M	AL	AL	P.BL	Pe	Blo	Tim 31000H	Ros	L4IH	260	p	FD	81	51¾	34	36x2¼	45x2½	½
102	299	4.9	198	33.7	85–2800	L	G	C	4-2⅝	9⅛	P	No	Til	M	AL	AL	P.BL	Pe	Blo	Tim 31000	Ros	L4IH	260	p	FD	120	77¼	34	42x2¼	56x3	½
103	380	4.3	238	40.8	88–2400	H	C	C	7-2¾	13⅛	PC	No	Zen	M	AL	AL	P.BL	Pe	Blo	Tim 31000	Ros	L4IH	260	p	FD	120	77¼	34	42x2¼	56x3	½
104	299	4.9	198	33.7	85–2800	L	G	C	4-2⅝	9⅛	PC	Mo	Til	M	AL	AL	P.BL	Pe	Blo	Tim 33000H	Ros	L4IHV	330	a	FD	120	77¼	34	42x2¼	56x3	½
105	428	4.1	268	45.9	100–2200	H	C	C	7-2¾	13⅛	PC	No	Zen	M	AL	AL	P.BL	Pe	Blo	Tim 33000	Ros	L4IHV	330	a	FD	120	77¼	34	42x2¼	56x3	½
106	318	4.5	203	36.	80–2700	L	G	C	7-2⅝	12⅛	CC	Mo	Til	M	AL	AL	P.BL	Pe	Blo	Tim 33000H	Ros	L4IHV	330	a	FD	120	77¼	34	42x2¼	50x3	½
107	353	4.8	245	36.2	98–2700	L	G	C	4-2¾	10	PC	Mo	Til	M	AL	AL	D.Jo	Pe	Blo	Tim 33000H	Ros	L4IHV	375	a	FD	127	74½	34	42x2¼	56x3	½
108	448	17.	280	38.0	83–1800	H	G	N	5-3¼	12	P	En	No	M	CI	LN	D.BL	Pe	Blo	Tim 33000	Ros	L4IHV	375	a	FD	127	74½	34	42x2½	56x3	½
109	380	4.3	238	40.8	88–2400	H	C	C	7-2¾	13⅛	PC	Mo	Zen	M	AL	AL	D.Jo	Pe	Blo	Tim 33000	Ros	L4IHV	375	a	FD	156	90	41½	44x2½	60x3	½
110	428	4.1	268	45.9	100–2200	H	C	C	7-2¾	13⅛	PC	Mo	Zen	M	AL	AL	D.Jo	Pe	Blo	Tim 33000	Ros	L4IHV	375	a	FD	176⅛

Line Number	MAKE AND MODEL	GENERAL (See Keynote) Tonnage Rating	Chassis Price	Standard Wheelbase	Max. W. B. Furnished	Gross Vehicle Weight	Chassis Wt. (Stripped)	TIRE SIZE Front	TIRE SIZE Rear	MAJOR UNITS ENGINE Make and Model	ENGINE No. of Cylinders Bore and Stroke	TRANSMISSION Make and Model	TRANSMISSION Location and Forward Speeds	TRANSMISSION Aux. Location and Speeds	REAR AXLE Make and Model	REAR AXLE Gear and Type	REAR AXLE Drive and Torque	REAR AXLE GEAR RATIOS In High	REAR AXLE GEAR RATIOS In Low	FRAME Side Rail Dimensions	FRAME Type
1	Indiana.....85	1½	885	141	186	10000	3950	B6.50/20	DB6.50/20	Her JXB	6-3⅜x4¼	BL 124	U 4	No	Tim 53200H	SF	H	5.66	35.1	7⅛x2½x⅜	T
2	95	2	1095	141	186	12000	4400	P32x6	DP32x6	Her JXC	6-3¾x4¼	BL 224	U 4	No	Tim 54300H	SF	H	5.85	36.2	7⅛x2½x⅜	T
3	.....95DR	2–2½	1275	141	186	15000	4650	B7.50/20	DB7.50/20	Her JXC	6-3¾x4¼	BL 224	U 4	Op	Wis 4916L	2F	H	6.66	41.2	7⅛x2½x⅜	T
4	105	2½	1775	156	186	16000	5600	B8.25/20	DB8.25/20	Her JXC	6-3¾x4½	BL 234	U 4	Op	Tim 56200H	SF	H	7.25	46.4	8¼x3x⅜	T
5	.....17A	3	2300	156	212	17000	6300	B8.25/20	DB8.25/20	Her WXC	6-4x4½	BL 3341	U 4	A 3	Tim 58200H	SF	H	6.83	43.0	8¾x3¼	T
6	.....17DR	3	2675	170	224	19000	6700	B8.25/20	DB8.25/20	Her YXC	6-4⅜x4¾	BL 334	U 4	Op	Wis 70000	2F	R	6.28	38.6	8¼x3x⅜	T
7	.....19DR	3½	3400	170	224	22000	8100	B9.00/20	DB9.00/20	Her YXC	6-4⅜x4¾	BL 524	U 4	Op	Wis 1237H	2F	R	7.2	52.3	8¼x3x⅜	T
8	.....43DR	4–5	4300	170	224	25000	8500	B9.75/20	DB9.75/20	Her RXB	6-4½x5¼	BL 524	U 4	Op	Wis 1627KH	2F	R	6.96	50.7	8¼x3x⅜	T
9	.....45DR	5	4800	170	224	25000	8700	B9.75/20	DB9.75/20	Her RXC	6-4⅝x5¾	BL 534	U 4	Op	Wis 1737H	2F	R	7.14	45.4	8¼x3x⅜	T
10	.....47DR	5–7	7000	188	224	28000	10500	B10.50/20	DB10.50/20	Cum6H Die.	6-4⅞x6	BL 735	A 5	No	Wis 1910W	2F	R	7.16	45.0	8¼x3x⅜	T
11	International (8) D1	½	360	113	113	4200	2180	B5.25/18	B5.25/18	Own D	6-3⅛x4½	Own D	U 3	No	Own D-55	S½	H	4.18	12.7	5¼x2¼x⅛	T
12	.....M2	1	850	118	118	7000	3180	B6.50/20	B6.50/20	Wau XAH	4-3½x4½	Own H-4-A	U 4	No	Own 713	SF	H	6.16	39.5	11¼x2¾x¼	T
13	.....A2	1½	615	136	160	8000	2945	B6.00/20	B6.00/20	Wau XAH	4-3⅜x4½	Own H-4-A	U 4	No	Own 708	SF	H	6.16	39.5	5½x2¾x⅜	T
14	.....B2	1½	615	136	160	8000	2945	B6.00/20	B6.00/20	Wau XAH	4-3⅜x4½	MM "O"	U 3	No	Own 704	SF	H	6.16	47.3	5½x2¾x⅜	T
15	.....A3	1½	795	136	160	10000	3572	P30x5	P32x6	Lyc SAH	6-3¼x4½	Own H-4-A	U 4	No	Own 710	SF	H	5.28	33.8	7x2¾x⅜	T
16	.....A3½	1½	970	136	160	10100	3600	B6 50/20	DB6.50/20	Lyc SAH	6-3¼x4½	WG T7	U 4	No	Own 710	SF	H	5.28	33.8	7x2¾x⅜	T
17	.....AL3	1½	895	138	164	10000	4032	B6.00/20	DB6.00/20	Lyc 4SLH	6-3¼x4½	WG T7	U 4	No	Own 800	S½	H	6.50	42.9	6½x2¼x¼	T
18	.....B-3	1½	795	136	160	10000	3385	P30x5	P32x6	Own FAB2	6-3⅛x4	Own H-4-A	U 4	No	Own 720	SF	H	5.29	33.8	7x2¾x⅜	T
19	.....B4	2	1045	145	185	12750	4055	B6.50/20	DB6.50/20	Own FAB-3	6-3⅛x4	Own H-4-A	U 4	No	Own 750	SF	H	6.5	41.6	8x3¼x⅜	T
20	.....A4	2	1625	145	185	15750	5221	P32x6	DP32x6	Own FBB	6-3⅝x4½	OwnH-5	U 5	No	Own 902	SF	H	6.50	47.8	7x3¾x¼	T
21	.....A5	3	2100	156	210	18750	5895	P34x7	DP34x7	Own FBB	6-3⅝x4½	OwnH-5	U 5	No	Own 1002	SF	H	7.16	64.7	8x3¾x¼	T
22	.....A6	3	2450	156	210	20850	6120	P34x7	DP34x7	Own FBB	6-3⅝x4½	OwnH-5	U 5	No	Own 1150	2F	H	8.5	76.8	8¼x3¾x⅜	T
23	.....W2	3¼	3900	148	200	24000	8450	S36x5	S36x10	HaS 151	4-4¼x5½	Own H-6	U 5	No	Own 1200	2F	H	6.85	83.9	7x3x¼	T
24	.....W3	5	4850	160	235	28000	10125	S36x6°	S40x12°	HaS 152	4-4¾x5½	OwnH -7	U 5	No	Own 1300	2F	H	7.85	70.5	8x3x⅜	T
25	.....A7	5–7½	6200	160	225	37000	11580	B9.75/20	DB9.75/20	Own FDB	6-4½x5½	Own H-7	U 5	No	Own 1301	2F	H	6.37	57.2	12½x3¼x⅜	T
26	.....A8	7½	6300	160	225	37000	11580	B9.75/20	DB9.75/20	Own FEB	6-5x5½	Own H-7	U 5	No	Own 1301	2F	H	6.37	57.2	12½x3¼x⅜	T
27	Kenworth.....86	1½–2	1120	141	165	10100	3400	B7 00/20	B7.00/20	Her JXA	6-3¾x4¼	BL 214	U 4	...	Cla B370	SF	H	5.4	34	5½x3x¼	T
28	88	2	1480	146	200	13400	4400	P32x6	DP32x6	Her JXC	6-3¾x4¼	BL 234	U 4	Op	Tim 54300H	SF	H	5.83	37.4	8x3x¼	T
29	.....101B	2–2½	2050	144	186	13400	4700	B7.50/20	DB7.50/20	Bud H298	6-3¾x4½	BL 234	U 4	...	Tim 54300H	SF	H	5.83	37.4	5½x3x¼	T
30	89	2½	1670	146	200	15000	4600	B7.50/20	DB7.50/20	Her JXC	6-3¾x4¼	BL 234	U 4	Op	Tim 56200H	SF	H	6.16	39.5	8x3x¼	T
31	127	2½–3	2600	154	202	16300	5490	B8.25/20	DB8.25/20	Her WXC	6-4x4½	BL 334	U 4	...	Tim 56200H	SF	H	6.16	40.7	8x2¼x¼	T
32	90	3	1820	146	200	18200	5500	B7.50/20	DB7.50/20	Her JXC	6-3¾x4¼	BL 234	U 4	Op	Tim 58205H	SF	H	6.83	43.8	8x3x¼	T
33	.....146B	3–4	3300	158	206	19500	5960	B9.00/20	DB9.00/20	Bud K393	6-4¼x4¾	BL 334	U 4	Op	Tim 58205H	SF	H	6.83	43.4	8x2¼x¼	T
34	.....166B	3½–4	3850	156	204	20700	6890	B9.00/20	DB9.00/20	Bud K393	6-4¼x4¾	BL 334	U 4	Op	Tim 58205H	SF	H	6.83	43.4	7–9x3x¼	T
35	.....166A	3½–4	4330	156	201	20700	6890	B9.00/20	DB9.00/20	HaS 147	6-4x5	BL 334	U 4	Op	Tim 58205H	SF	H	6.83	43.4	7–9x3x¼	T
36	18	4–5	4675	155	221	25600	7710	B9.75/20	DB9.75/20	Her YXC2	6-4½x4¾	BL 1554	U 4	A 3	Tim 57720H	2F	H	7.33	105.	7–9x3x¼	T
37	241	5–7	5450	169	221	27800	9000	B9.75/20	DB9.75/20	Her RXB	6-4½x5¼	BL 714	U 4	A 3	Tim 76720W	2F	H	7.33	85.5	7–9x3x¼	T
38	.....241A	5–7	6500	169	228	27800	9500	B9.75/20	DB9.75/20	HaS 160	6-4½x5½	BL 714	U 4	A 3	Tim 76720W	2F	H	7.33	85.5	8x3x⅜	C
39	.....241B	5–7	6150	174	228	27800	9500	B9.75/20	DB9.75/20	Bud GL-6	6-4½x6	BL 714	U 4	A 3	Tim 76720W	2F	H	7.33	85.5	8x3x⅜	C
40	.....241C	5–7	7200	174	228	27800	10000	B9.75/20	DB9.75/20	HaS 175	6-5x6	BL 714	U 4	A 3	Tim 76720W	2F	H	6.38	86.5	8x3x⅜	C
41	Kleiber.....80	1½–2½	1300	140	160	10000	3950	B6.50/20	DB6.50/20	Con 18E	6-3½x4	BL 224	U 4	No	Tim 53200H	BF	H	5.81	34.0	5½x3¼x¼	C
42	100	2–3½	1750	170	180	12000	4400	B7.00/20	DB7.00/20	Con 20C	6-3½x4⅝	BL 324	U 4	No	Tim 54200H	BF	H	6.6	38.7	7½x3x¼	T
43	120	2½–4½	2350	170	180	15000	5150	B7.50/20	DB7.50/20	Con E600	6-3¼x4	BL 324	U 4	No	Tim 56200H	BF	H	6.17	33.4	7½x3x¼	T
44	140	3–5½	3300	180	190	18000	6500	B8.25/20	DB8.25/20	Con E601	6-3⅞x4½	BL 324	U 4	No	Tim 58200H	BF	R	6.1	38.7	7½x3x¼	T
45	210	4–6	4000	190	192	23400	7600	B9.75/20	DB9.75/20	Con 21R	6-4⅜x4¾	BL 55	U 4	No	EatDR2412H	2F	R	7.25	42.0	7½x3x¼	C
46	.....KD6	7	6000	206	210	26000	9500	B9.75/20	DB9.75/20	Cum6HDie	6-4⅞x6	BL 714	A 4	A 3	Eat 65041W	2F	R	8.5	91.0	8x3½x⅜	C
47	La Fr. Republic.C-2	2	1100	150	162	10000	3800	B6.00/20	DB6.00/20	Lyc SA	6-3¼x4½	Wa T9	U 4	No	Tim 53200H	SF	H	5.67	35.9	5¾x2x⅜	C
48	.....D-2	2–2½	1485	162	175	11500	4600	B6.50/20	DB6.50/20	Lyc SB	6-3⅝x4½	Wa T9	U 4	No	Tim 54200H	SF	H	5.83	37.9	7x3x¼	C
49	.....E-2	2½–3	2005	164	190	13000	5375	P32x6	DP32x6	Lyc ASD	6-3¾x4½	Fu Mu-Bh	U 4	No	Tim 56200H	SF	R	7.4	47.0	7x3x¼	C
50	.....F-3	3½–4	2420	174	198	16300	6240	P34x7	DP34x7	Lyc ASO	6-3¾x4½	Fu MGU14	U 4	No	Tim 58200H	SF	R	7.8	50.6	7x3x¼	C
51	.....H-4	4–5	3285	170	206	19500	7840	B9.75/20	DP9 75/20	Lcy TS	6-3⅞x5	Fu MRU	U 4	No	Tim 57720H	2F	R	8.15	54.0	8x3x¼	C
52	.....M-3	5–6	4640	174	198	23000	8490	B10.50/20	DB10.50/20	Wau 6SRL	6-4⅜x5½	Fu VUOG	U 5	No	Tim 76733H	2F	R	8.85	62.5	9¼x3½x⅜	C
53	35-4	7–8	6570	174	198	30000	9700	B10.50/24	DB10.50/24	Wau 6-125	6-4⅝x5½	Fu MHU	U 4	No	Tim 78720W	2F	R	8.90	58.2	9¼x3½x⅜	C
54	Le Moon.....150	1½	1150	140	152	8000	3300	B6.50/20	B6.50/20	Con 16C	6-3⅜x4⅝	BL 214	U 4	No	Tim 53200H	BF	H	5.14	31.8	6x3x⅜	C
55	200	1½–2	1350	160	178	11200	3600	B7.00/20	DB7.00/20	Con 16C	6-3⅜x4⅝	BL 214	U 4	No	Tim 53200H	BF	H	5.14	31.8	6x3x⅜	C
56	300	2–3	1575	163	190	12600	4200	B7.50/20	DB7.50/20	Con 16C	6-3⅜x4⅝	BL 214	U 4	No	Tim 54200H	BF	H	6.80	42.1	6½x3¼x¼	T
57	400	3–4	2175	163	190	15300	5000	B8.25/20	DB8.25/20	Wau 6MS	6-3¾x4¾	BL 314	U 4	No	Tim 56200H	BF	R	6.16	40.6	6½x3¼x¼	T
58	505	4–5	2775	160	190	19500	6000	B9.00/20	DB9.00/20	Wau 6MK	6-4½x4¾	BL 514	U 4	No	Tim 58200H	BF	R	6.14	40.6	6½x3¼x¼	P
59	501	4–5	3150	160	190	19500	6500	B9.00/20	DB9.00/20	Wau 6SRL	6-4½x5¼	Fu VUOG	U 5	No	Tim 58200H	BF	R	6.14	40.6	7x4¼x¼	C
60	.....(9) 600	5–6	3450	169	199	21600	7200	B9.75/20	DB9.75/20	Wau 6SRL	6-4½x5½	BL 514	U 4	No	Tim 65720H	WF	R	6.00	43.2	9x4x⅜	C
61	Mack.....BL	1–2	2500	138	152	.....	4050	B6.00/20	DB6.00/20	Own BL	6-3¼x5	Own BG	U 4	No	Tim52000B2	SF	H	5.66	27.9	7x3x⅜	T
62	.....BU	1½–3	3000	138	192	.....	4800	P32x6	DP32x6	Own BL	6-3⅝x5	Own BG	U 4	No	Own BG	SF	H	5.44	28.8	7x3x⅜	T
63	.....BF	2½–4	4200	156	198	.....	6600	B8.25/20	DB8.25/20	Own BG	6-3⅝x5	Own BG	U 4	No	Own AB	2F	H	7.01	33.9	7¼x3x⅜	T
64	.....AB	3–5	4000	147	219	.....	6450	P34x7	DP34x7	Own AB	4-4¼x5	Own AB	U 4	No	Own AB	CD	R	7.72	37.4	8x2¼x¼	T
65	.....AB	3–5	4200	147	219	.....	6700	P34x7	DP34x7	Own AB	4-4¼x5	Own AB	U 4	No	Own AB	2F	H	7.58	36.7	8x2¼x¼	T
66	.....AB	3–5	4150	147	219	.....	6450	P34x7	DP34x7	Own BG	6-3⅝x5	Own AB	U 4	No	Own AB	CD	R	7.72	37.4	8x2¼x¼	T
67	.....AB	3–5	4500	147	219	.....	6700	P34x7	DP34x7	Own BG	6-3⅝x5	Own AB	U 4	No	Own AB	2F	H	7.58	36.7	8x2¼x¼	T
68	.....BM	3–5	4700	157	217	.....	7500	B9.00/20	DB9.00/20	Own BC	6-4x5½	Own BC	U 4	No	Own AB	2F	H	7.01	40.9	7¼x3x⅜	T
69	.....BC	4–6	5250	154	226	.....	7850	P36x8	DP36x8	Own BC	6-4x5½	Own BC	U 4	No	Own BC	2F	H	7.58	44.2	8½x3x⅜	T
70	.....BC	4–6	5500	154	226	.....	8000	P36x8	DP36x8	Own BC	6-4x5½	Own BC	U 4	No	Own BC	CD	R	7.88	46.0	8½x3x⅜	T
71	.....BX	4–6	5750	160	214	.....	7900	B9.75/22	DB9.75/22	Own BX	6-4¼x5½	Own BX	U 4	No	Own BX	CD	R	7.88	55.2	9½x3x¼	T
72	.....BX	4–6	5600	160	214	.....	8050	B9.75/22	DB9.75/22	Own BX	6-4¼x5½	Own BX	U 4	No	Own BX	2F	H	7.01	49.4	9½x3x¼	T
73	.....BJ	5–8	6450	168	245	.....	9800	B10.50/22	DB10.50/22	Own BK	6-4¾x5½	Own AL	A 4	No	Own AK	2F	H	6.92	36.8	11¼x3¼x¼	T
74	.....BQ	5–8	6800	191	245	.....	10000	B10.50/22	DB10.50/22	Own BQ	6-4¾x5¾	Own BQ	A 4	No	Own AK	2F	H	6.52	41.9	10½x3x¼	T
75	.....AK	5–8	5150	162	228	.....	9500	B10.50/24 °	DB10.50/24°	Own AC	4-5x6	Own AC	J 4	No	Own AC	CD	R	7.83	50.5	8½x2¾x¼	C
76	.....AK	5–8	5250	162	228	.....	9400	B10.50/24 °	DB10.50/24°	Own AC	4-5x6	Own AK	A 4	No	Own AK	2F	H	6.92	55.3	8½x2¾x¼	C
77	.....AK	5–8	6450	174	240	.....	10400	B10.50/22	DB10.50/22	Own BQ	6-4¾x5¾	Own AC	A 4	No	Own AK	2F	H	6.92	44.3	8½x3x⅜	C
78	.....BX-8	7½	6250	207	225	.....	9200	B9.75/24	DB9.75/24	Own BX	6-4½x5½	Own B	U 4	No	Own BX	2F	H	7.54	53.1	9½x3x¼	T
79	.....AC Light	5–8	4950	168	240	.....	9200	B10.50/24 °	DB10.50/24°	Own AC	4-5x6	Own AC	J 4	No	Own AC	CD	R	8.46	54.4	8x3x⅜	C
80	.....AC Medium	6–9	5500	168	240	.....	9800	S36x6	DS40x6	Own AC	4-5x6	Own AC	J 4	No	Own AC	CD	R	7.75	49.8	8x3x⅜	C
81	.....AC Heavy	7–10	6000	168	240	.....	10150	S36x7	DS40x7	Own AC	4-5x6	Own AC	J 4	No	Own AC	CD	R	8.95	57.4	8x3x⅜	C
82	.....AC	6–9	6450	174	240	.....	11400	B10.50/24	DB10.50/24	Own BQ	6-4¾x5¾	Own AC	A 4	No	Own AC	CD	R	8.4	53.9	8½x3x⅜	C
83	.....AP	7½–10	8500	191	191	.....	11700	S36x7	DS40x8	Own AP	6-5x6	Own AP	J 4	No	Own AP	CD	R	8.31	53.3	8x3x⅜	C
84	Mar.-Herr.....A10	1½	2250	135	155	9650	4650	B6.50/20	DB6.50/20	Her JXA	6-3⅜x4¼	WG T9	U 4	A 2	Own-Tim	BF	H	6.60	82.0	7⅛x2½x⅓	C
85	(all 4 Wh.Dr.) A20	2½	3150	135	155	11900	4900	B7.50/20	DB7.50/20	Her JXC	6-3¾x4¼	Cl R103	U 5	A 2	Own-Tim	BF	H	6.83	80.0	7⅛x2½x⅓	C
86	.....A30	3½	4050	155	167	15000	6000	B8.25/20	DB8.25/20	Her WXC	6-4x4½	Cl R900	U 5	A 2	Own-Tim	BF	H	6.17	116.	9½x3x⅓	C
87	.....A40	4	4850	155	167	18500	7500	B9.00/20	DB9.00/20	Her WXC3	6-4¼x4½	Fu 5A380	U 5	A 2	Own-Tim	BF	H	7.80	133.	9½x3x⅓	C
88	.....A50	4	5685	155	167	19150	8150	B9.00/20	DB9.00/20	Her WXC3	6-4¼x4½	Fu 5A380	U 5	A 2	Own-Wis	2F	H	8.0	136.	9½x3x⅓	C
89	.....TH300	4½	6285	163	193	21300	9300	B9.75/20	DB9.75/20	Her YXC	6-4⅜x4¾	Fu 5A380	U 5	A 2	Own-Wis	2F	H	8.0	142.	8½x3x⅜	P
90	.....TH310	5	6785	162	193	22620	9620	B9.75/20	DB9.75/20	Her YXC3	6-4⅜x4¾	Fu 5A530	U 5	A 2	Own-Wis	2F	H	8.0	144.	8½x3x⅜	P
91	.....TH310A	6	7785	163	193	25120	10120	B9.75/22	DB9.75/22	Her RXC	6-4⅝x5¼	Fu 5A530	U 5	A	Own-Wis	2F	H	7.79	140.	8½x3x⅜	P
92	.....13TH315	7	9125	198	216	27950	10950	B10.50/20	DB10.50/20	Her HXB	6-5x6	BL 724	U 4	A 3	Own-Wis	2F	H	7.79	140.	8½x3x⅜	P
93	.....13TH320	8	10500	198	228	33200	14200	B10.50/24	DB10.50/24	Her HXC	6-5¼x6	BL 724	U 4	A 3	Own-Wis	2F	H	8.05	166.	10x3x⅜	P
94	.....13TH330	9	12500	198	228	35920	14920	B11.25/24	DB11.25/24	Her HXD	6-5¼x6	BL 734	U 4	A 3	Own-Wis	2F	H	8.40	154.	10x3x⅜	P
95	Moreland.....RR10	1½	1195	159	Op	10000	4195	B6.50/20	DB6.50/20	Her JXC	6-3¾x4¼	BL 224	U 4	No	Tim 53200H	SF	H	5.66	35.0	7¼x2⅝x¼	T
96	.....RR12	2	1400	159	Op	12000	4585	P32x6	DP32x6	Her JXC	6-3¾x4¼	BL 224	U 4	No	Tim 54300H	SF	H	5.83	36.1	7⅛x2⅝x¼	T
97	.....RR15	.....	1600	159	Op	15000	5250	B8.25/20	DB8.25/20	Her JXC	6-3¾x4¼	BL 224	U 4	No	Tim 56200H	SF	H	6.17	38.2	7⅛x2⅝x¼	T
98	.....B16	.....	2775	184	Op	15000	5800	B8.25/20	DB8.25/20	Her WXC	6-4x4½	BL 334	U 4	...	Tim 56200H	SF	R	6.17	38.0	9¼x3½x⅜	T
99	.....E18	.....	2828	184	Op	18000	6460	B9.00/20	DB9.00/20	Her WXC3	6-4¼x4½	BL 334	U 4	...	Tim 58205H	SF	R	6.14	37.8	9¼x3½x⅜	T
100	.....E22	.....	3405	184	Op	22000	7150	B9.75/20	DB9.75/20	Her WXC3	6-4¼x4½	BL 334	U 4	...	Tim 65720H	WF	R	7.25	44.5	9¼x3½x⅜	T
101	.....H26	.....	4815	196	Op	26000	8900	B9.75/20	DB9.75/20	Her RXB	6-4½x5¼	BL 524	U 4	...	Tim 65720H	WF	R	8.20	59.8	9¼x3¾x⅜	T
102	Oshkosh.....JSW	1½–2	2650	123	Op	10660	4880	B7.00/20	DB7.00/20	Her WXC	6-4x4½	BL 524	U 4	No	Own J8B	SF	H	6.19	40.1	6x3½x¼	T
103	(All 4Wh. Dr) .JSB	1½–2	2490	149	Op	10750	4760	B7.00/20	DB7.00/20	Her JXC	6-3¾x4¼	BL 51-4	U 4	No	Own J8B	SF	H	6.19	40.1	6x3½x¼	T
104	.....LB	2–2½	3750	146	165	13900	6700	B9.00/20	B9.00/20	Her JXC	6-3¾x4¼	BL 51-4	U 4	No	Own LB	2F	H	7.3	39.0	7x3x¼	T
105	LC	2½–3	4000	146	165	15150	6950	B9.00/20	B9.00/20	Her WXC	6-4x4½	BL 55-4	U 4	No	Own LC	2F	H	7.3	53.1	7x3x¼	T
106	.....H2A	3½	4675	146	165	16550	7550	B9.75/22	B9.75/22	Her WXC3	6-4¼x4½	BL 55-7	A 7	No	Own H2A	2F	H	8.94	84.9	7x3x⅜	T
107	.....H2B	3½–4	4890	146	165	18800	8700	B10.50/22	B10.50/22	Her YXC	6-4⅜x4¾	BL 615	U 5	No	Own H2B	2F	H	8.94	73.4	7x3x¼	T
108	.....H2C	4–5	5165	146	165	22000	9000	B11.25/20	B11.25/20	Her RXB	6-4½x5¼	BL 615	U 5	No	Own H2C	2F	H	9.6	78.9	7x3x⅜	L
109	.....Y2D	4–5½	5490	146	165	22250	9450	B11.25/20	B11.25/20	Her RXB	6-4½x5¼	BL 70-7	A 7	No	Own Y2D	2F	H	9.6	91.2	7x3x⅜	L
110	.....FHX	5–7	5145	146	165	26350	10350	B12.00/20	B12.00/20	Her RXC	6-4⅝x5¼	BL 70-7	A 7	No	Own FHX	2F	H	9.6	90.2	8x3x⅜	L
111	.....F2A	5–7½	6775	146	165	28400	11400	B12.75/20	B12.75/20	Her RXC	6-4⅝x5¾	BL 70-7	A 7	No	Own F2A	2F	H	9.1	85.5	8x3x⅜	L
112	.....GB	7½	***	156	170	30000	14000	B12.75/20	B12.75/20	Her HXB	6-5x6	BL 744	U 4	A 3	Wis Own	2F	H	5.0	96.3	10x3¼x⅜	L
113	.....G	7½–10	***	156	170	37000	14250	B13.50/20	B13.50/20	Her HXC	6-5¼x6	BL 744	U 4	A 3	Wis Own	2F	H	5.0	96.3	10x3¼x½	L
114	Pierce-Arrow 138385	2–2½	2500	160	200	13000	5750	B8.25/20	DB8.25/20	Own E	8-3½x5	Co RU48L	U 4	No	Tim 56200	SF	R	5.28	32.6	7⅝x3½x⅜	C
115	.....15T298	3–3½	1950	150	200	15000	5725	B8.25/20	DB8.25/20	Her WXB	6-3¾x4½	Cl B102	U 4	Op	Tim 56200	SF	R	6.16	40.2	7⅝x3½x⅜	C
116	.....17T361	3–4	2350	150	200	17000	5725	B39.00/20	DB8.25/20	Her WXC2	6-4¼x4½	Co RU48L	U 4	Op	Tim 58200	SF	R	6.83	42	7⅝x3½x⅜	C
117	.....18W361	3½–4½	3000	150	200	18000	6660	B9.00/20	DB9.00/20	Her WXC2 Spe	6-4¼x4½	Co RU48L	U 4	Op	Tim 65720	WF	R	6.8	42	8¼x3½x⅜	C
118	.....19R479	3½–4½	3600	150	200	19000	7850	B9.00/20	DB9.00/20	Her YXC3	6-4½x4¾	Co TNU	U 4	Op	Tim 65720	WF	R	6.8	36	8¼x3½x⅜	C
119	.....22X479	4½–5½	3900	200	240	22000	8095	B9.75/20	DB9.75/20	Her YXC3	6-4½x4¾	Co TNU	U 4	Op	Tim 65720	WF	R	6.8	36.	9¼x3½x⅜	C
120	.....28M611	6–7	5400	160	200	28000	11600	B10.50/24	DB10.50/24	Her GXA	6-4¾x5¾	Own618290	A 4	Op	Own 616743	WF	A	8	42	9½x3½x⅜	C
121	Reo.....BN	½–¾	530	130	...	5500	2805	B6.50/18	B6.50/18	Own	6-3⅛x5	Own	U 3	No	Own	B½	H	4.9	16.1	7⅛x2½x⅜	
122	.....1A, (1Ct)	1–1½	575	136	160	9000	2930	B6.00/20	P32x6	Own	4-3⅛x4½	Own	U 4	No	Own	SF	H	5.8	38.4	7x2¾x⅜	
123	(Cont.).1B, (1Dt)	1½–2½	695	140	164	10500	3100	B6.00/20	P32x6	Own	6-3⅛x5	Own	U 4	No	Own	SF	H	5.28	34.8	7x2¾x⅜	

Line Number	ENGINE DETAILS: Piston Displacement	Compression Ratio	Torque lb. ft.	N.A.C.C. Rated H.P.	Max. Brake H.P. at R.P.M. Given	Valve Arrangement	Camshaft Drive	Piston Material	MAIN BEARINGS: Number and Diameter	MAIN BEARINGS: Length	Oiling System Type	Governor Make	FUEL SYST.: Carburetors Make	FUEL SYST.: Fuel Feed	ELECTRICAL: Ignition System Make	ELECTRICAL: Generator, Starter Make	Clutch Type and Make	Radiator Make	Universals Make	FRONT AXLE: Make and Model	Steering Gear Make	BRAKES: SERVICE: Make, Location Type, Operation	BRAKES: SERVICE: Lining Area	BRAKES: SERVICE: Drum Material	BODY MOUNTING DATA: Hand Type, Location	BODY MOUNTING DATA: Cab to Rear of Frame	BODY MOUNTING DATA: Cab to Rear Axle	BODY MOUNTING DATA: Width of Frame	SPRINGS: Front	SPRINGS: Rear	Auxiliary Type
1	263	5.0	160	31.5	68-2800	L	G	C	7-2½	10¼	PC	Op	Str	M	AL	AL	P.BL	Yo	Spi	Tim 30020H	Ros	L4IH	249	G	TX	92	56	34	37x2¼	54x2½	N
2	282	5.3	176	33.7	73-2800	L	G	A	7-2½	10¼	PC	Op	Str	M	AL	AL	P.BL	Yo	Spi	Tim 31020	Ros	L4IH	353	G	TX	92	56	34	37x2¼	54x2½	N
3	282	5.3	176	33.7	73-2800	L	G	A	7-2½	10¼	PC	Op	Str	M	AL	AL	P.BL	Yo	Spi	Tim 31020	Ros	L4IH	353	G	TX	92	56	34	37x2¼	54x2½	
4	282	5.3	176	33.7	73-2800	L	G	A	7-2½	10¼	PC	Opt	Str	M	AL	AL	P.BL	Yo	Spi	Shu 5572	Ros	L4IHV	383	G	TX	108	69	34	40x2¼	54x3	
5	339	4.7	210	38.4	76-2400	L	G	A	7-2⅝	13¼	PC	Opt	Str	M	AL	AL	P.BL	Yo	Spi	Shu 5572	Ros	L4IH	380	G	TX	108	69⅜	34	39½x2½	54x3	
6	428	4.4	283	45.9	94-2200	L	G	A	7-3	14	PC	Ha	Str	M	AL	AL	P.BL	Yo	Spi	Shu 15582	Ros	L4IHV	398	G	CD	142	83	34½	40x2½	54x3	
7	428	4.4	283	45.9	94-2200	L	G	A	7-3	14	PC	Ha	Str	M	AL	AL	P.BL	Yo	Spi	Shu 15582	Ros	L4IHV	398	G	CD	142	83	34½	40x2½	54x3	
8	501	4.9	330	48.6	110-2200	L	G	A	7-3	12½	PC	Ha	Str	M	AL	AL	P.BL	Yo	Spi	Shu 15592B	Ros	L4IHV	546	G	CD	142	83	34½	40x2½	54x3	
9	529	4.9	350	51.3	115-2200	L	G	A	7-3	12½	PC	Ha	Str	M	AL	AL	P.BL	Yo	Spi	Shu 15592B	Ros	L4IHV	546	G	CD	142	83	34¼	40x2½	54x3	
10	762	17.	420	57.0	125-1800	H	G	N	7-3½	17½	CC	En	No	M	CI	LN	dpBL	Yo	Spi	Shu 1633W	Ros	Ws4IA	560	G	CD	144	90	34	40x3	54x3	
11	213	5.0	133	26.3	66-3400	L	C	C	4-2⅝	6¼	FP	No	Til	M	AL	AL	B-W	Mo	Spi	Own D-50	Own	B4IM	156	P	2I	54	29¼	Var	36½x1¾	51x1¾	N
12	186	4.6	124	21.	39-2400	L	G	C	3-2	6¼	FP	No	Zen	V	DR	DR	P.MM	Mo	MM	Own 104	Ros	B4IM	217	Pa	TX	66½	35½	32½	40x2	46x2½	
13	186	4.6	124	21.	39-2400	L	G	C	3-2	6¼	FP	No	Zen	V	DR	DR	P.MM	Mo	MM	Own 101	Ros	B4IM	212	P	2I	93⅝	53⅝	32½	40x2	46x2½	
14	186	4.6	124	21.	39-2400	L	G	C	3-2	6¼	FP	No	Zen	V	DR	DR	P.MM	Mo	MM	Own 101	Ros	B4IM	212	P	2I	93⅝	53⅝	32½	40x2	46x2½	
15	224	4.7	138	25.3	54-2700	L	G	A	4-2⅝	7½	PC	No	Zen	M	DR	DR	P.Ro	Mo	MM	Own 105	Ros	B4IM	287	P	2I	93⅝	53⅝	32¼	40x2	46x2½	
16	224	4.7	138	25.3	54-2700	L	G	A	4-2⅝	7½	PC	No	Zen	M	DR	DR	P.Ro	Mo	MM	Own 200	Ros	B4IM	302	P	2I	93⅝	53⅝	32¼	40x2¼	46x2½	
17	224	4.7	138	25.3	54-2700	L	G	A	4-2⅝	7½	PC	No	Zen	V	DR	DR	P.Ow	Mo	MM	Own 200	Ros	B4IM	295	Pa	2I	98½	55⅝	32	40x2¼	52x2½	
18	207	5.5	137	26.3	59-2900	H	G	C	4-2⅝	6	FP	No	Til	M	DR	DR	P.Ro	Mo	MM	Own 108	Ros	B4IM	271	Pa	2I	93⅝	53⅝	32¼	40x2	46x2½	
19	223	5.4	154	28.3	63-3200	H	G	C	4-2⅝	6¼	FP	No	Til	M	DR	DR	P.Ow	Mo	MM	Own 108	Ros	B4IM	303	Pa	2I	106⅝	62⅜	34	40x2	54x3	
20	279	4.6	176	31.5	67-2600	H	G	C	7-2½	13¼	FP	Ha	Zen	M	DR	DR	P.Ow	Mo	MM	Own 251	Ros	B4IM	378	Pa	2I	104	61½	34	42x3	54x3	
21	279	4.6	176	31.5	67-2600	H	G	C	7-2½	13¼	FP	Ha	Zen	M	DR	DR	P.Ow	Mo	MM	Own 300	Ros	B4IM	430	Pa	2I	115	72½	34	42x3	56x3	
22	279	4.6	176	31.5	67-2600	H	G	C	7-2½	13¼	FP	Ha	Zen	M	DR	DR	P.Ow	Mo	MM	Own 300	Ros	B4IM	430	Pa	2I	115	72½	34	42x3	56x3	
23	312	4.0	200	28.9	59-1800	H	C	A	3-2¾	7⅝	FP	HS	Zen	V	RB	DR	P.Ow	Ow	Ow	Own 400	Own	BO4IM	710	Pa	2I	106½	73¼	34	41½x3	56x3½	
24	390	3.8	240	36.1	69-1800	H	C	A	3-3	7⅝	FP	HS	Zen	V	RB	DR	P.Ow	Ow	Ow	Own 500	Own	BO4IM	794	Pa	2I	120	81⅞	34	44x3	58x4	
25	525	4.5	315	48.6	98-1800	H	G	C	7-3¼	17¾	FP	Ha	Zen	M	DR	DR	P.Ro	Mo	MM	Own 503	Ros	804IMV	729	Pa	TD	106	72	34	48x3	56x3	
26	648	4.4	398	60.0	114-1800	H	G	C	7-3¼	17¾	FP	Ha	Zen	M	DR	DR	P.Ro	Mo	MM	Own 503	Ros	804IMV	729	Pa	TD	106	72	34	48x3	56x3	
27	228	4.7	150	27.3	50-2800	L	G	A	7-2½	10¼	FP	No	Zen	M	DR	DR	P.BL	Pe	Spi	Cla F208	Ros	L4IH	222	p	TX	88	60	34½	40x2¼	52x3	N
28	282	4.7	176	33.7	73-2700	L	G	A	7-2½	10¼	FP	No	Zen	M	DR	DR	P.BL	Pe	Spi	Tim 31000H	Ros	L4IH	335	a	TX	108	60	31½	38x2¼	52x2½	N
29	298	4.7	200	33.7	80-2800	L	G	A	7-3	9⅞	CC	No	Zen	M	DR	DR	P.BL	Pe	Spi	Tim 31000H	Ros	L4IH	335	a	FD	96	60	34½	40x2½	52x3	
30	282	4.7	176	33.7	73-2700	L	G	A	7-2½	10¼	FP	No	Zen	M	DR	DR	P.BL	Pe	Spi	Tim 31000H	Ros	L4IH	335	a	TX	108	60	31½	38x2¼	52x2½	
31	339	4.4	212	38.4	76-2400	L	C	C	7-2⅝	13¼	FP	No	Zen	M	DR	DR	P.BL	Pe	Spi	Tim 33000H	Ros	L4IH	335	a	FD	110	72	31½	40x2½	52x3	
32	282	4.7	176	33.7	73-2700	L	G	A	7-2½	10¼	FP	No	Zen	M	DR	DR	P.BL	Pe	Spi	Tim 31000H	Ros	L4IH	394	a	TX	108	60	31½	38x2¼	52x3	
33	393	4.9	260	42.1	103-2600	L	G	C	7-3	11½	FP	No	Zen	M	DR	DR	P.BL	Pe	Spi	Tim 33000H	Ros	L4IHV	394	a	FD	120	72	31½	40x2½	52x3	
34	393	4.9	260	42.1	103-2600	L	G	C	7-3	11½	FP	No	Zen	M	DR	DR	P.BL	Pe	Spi	Tim 35100H	Ros	L4IHV	455	a	FD	120	72	33¾	42x2½	56x3½	
35	377	4.9	258	38.4	92-2300	H	C	A	4-2⅞	11½	FP	No	Zen	M	DR	DR	P.BL	Pe	Spi	Tim 35100H	Ros	L4IHV	455	a	FD	120	72	33¾	42x2½	56x3½	
36	453	4.8	300	48.6	98-2200	L	G	A	7-3	14	CC	Ha	Zen	M	DR	DR	P.BL	Pe	Spi	Tim 35100H	Ros	L4IHV	602	a	FD	110	72	33¾	42x2½	56x3½	
37	501	4.9	330	48.6	110-2200	L	G	A	7-3	12½	CC	Ha	Zen	M	DR	DR	P.BL	Pe	Spi	Tim 36020N	Ros	Ws2ImV	407	a	FD	132	84	33¾	42x3	56x4	
38	468	4.4	322	43.3	125-2400	H	C	A	4-2¾	10⅝	FP	No	Zen	M	DR	DR	P.BL	Pe	Spi	Tim 36020N	Ros	Ws2ImV	407	a	FD	132	84	33¾	42x3	56x4	
39	572	4.3	358	48.6	114-1900	L	G	C	4-3	10¼	CC	Bu	Zen	M	DR	DR	P.BL	Pe	Spi	Tim 36020N	Ros	Ws2ImV	407	a	FD	132	84	33¾	42x3	56x4	
40	707	4.4	506	60.0	170-2000	H	C	A	7-3¼	11¼	FP	HS	Zen	M	DR	DR	P.BL	Pe	Spi	Tim 36020N	Ros	Ws2ImV	407	a	FD	132	84	33¾	42x3	56x4	
41	214	4.9	137	27.3	61-3000	L	C	C	7-2¼	8¼	FP	No	Str	M	DR	DR	D.BL	Mo	Spi	Tim 30000H	Ros	L4IH	308	G	TX	101	64	34	38x2¼	52x2½	N
42	248	5.	172	27.4	78-3100	L	C	C	7-2¼	10¼	PC	No	Str	M	DR	DR	D.BL	Ow	Spi	Tim 31000H	Ros	L4IH	352	G	TX	126	76	34	38x2¼	52x2½	
43	288	1.6	182	32.6	73-2700	L	C	C	7-2¾	12¼	PC	No	Str	M	DR	DR	D.BL	Ow	Spi	Tim 31000H	Ros	L4IH	354	G	F	166	76	34	38x2½	52x3	
44	318	4.6	204	36.0	80-2700	L	C	C	7-2⅝	12¼	FP	No	Str	V	DR	DR	D.BL	Ow	Spi	Tim 33020H	Ros	L4IH	648	G	TD	172	104	34	38x2½	52x3	
45	427	4.2	270	45.9	102-2400	H	C	C	7-2¾	13¼	FP	No	Str	M	DR	DR	D.BL	Ow	Spi	Tim 35020H	Ros	L4IHV	676	G	FD	170	108	34	38x2½	52x3	
46	672	15.	420	57.0	125-1800	H	G	N	7-3¼	13¼	FP	En	No	M	No	LN	D.BL	Ow	Spi	Tim 26450	Ros	Ws4IA	848	G	FD	180	130	38	44x2½	52x3	
47	224	4.7	145	25.3	61-2800	L	G	C	4-2⅝	8¼	PC	No	Zen	M	AL	AL	P.BB	Pe	Spi	Tim 30000H	Ros	L4IH	287	Da	TX	110¼	67½	31⅞	38x2	52½x2½	
48	242	5.0	160	27.3	65-2800	L	G	C	4-2⅝	8¼	PC	No	Zen	M	AL	AL	P.BB	Pe	Spi	Tim 31000H	Ros	L4IH	271	Da	TX	143¾	79½	32	38x2	52½x2½	
49	299	4.9	195	33.5	82-2600	L	G	C	4-2¾	10	PC	Ha	Zen	M	AL	AL	P.BB	Pe	Spi	Tim 31000H	Ros	L4IHV	327	Da	TX	120	78¾	32	38x2	57½x2	
50	299	4.9	195	33.5	82-2600	L	G	C	4-2¾	10	PC	Ha	Zen	M	AL	AL	D.Fu	Pe	Spi	Tim 33020H	Ros	L4IHV	367	Da	FD	140¼	93	32	39x2½	60x3	
51	354	4.3	228	36.2	86-2300	L	G	C	4-2¾	10	FP	Ha	Zen	M	AL	AL	D.Fu	Pe	Spi	Tim 33000H	Ros	L4IHV	458	Da	FD	144	75	32	39x2½	60x3	
52	462	1.6	310	46.	97-2000	L	G	C	7-3	13½	PC	Wa	Zen	M	AL	AL	D.Fu	Pe	Spi	Tim 35000H	Ros	L4IHV	468	Da	FD	168	88	32½	44x3	60x3½	
53	462	4.6	324	46.	125-2400	L	G	C	7-3	13¾	PC	Wa	Zen	M	AL	AL	D.Fu	Ow	Spi	Tim 27450W	Ros	Ws4IA	690	Da	FD	168	81¼	34	44x3	60x3½	
54	248	4.4	150	27.3	65-2800	L	C	C	7-2¾	10¼	PC	No	Str	M	DR	DR	D.BL	Ch	Spi	Tim 30000H	Ros	L4IH	275	c	TX	96	58	34	37½x2¼	49¼x2½	
55	248	4.4	150	27.3	65-2800	L	C	C	7-2¾	10¼	PC	No	Str	M	DR	DR	D.BL	Ch	Spi	Tim 30000H	Ros	L4IH	275	c	TX	128	81	34	37½x2¼	50x2½	
56	248	4.4	150	27.3	65-2800	L	G	C	7-2¾	10¼	PC	No	Str	M	DR	DR	D.BL	Ch	Spi	Tim 31000H	Ros	L4IH	293	c	TX	128	81	34	37½x2¼	50x2½	
57	315	4.6	200	33.7	72-2500	L	G	C	7-2⅝	12½	PC	No	Str	M	DR	DR	D.BL	Ch	Spi	Tim 33000H	Ros	L4IH	345	c	TX	128	81	34	37½x2¼	50½x2½	
58	381	4.4	242	40.8	85-2500	L	G	C	7-2⅝	12½	PC	No	Str	M	DR	DR	D.BL	Ch	Spi	Tim 33000H	Ros	L4IHV	385	c	CD	128	81	34	39x2½	53x3	
59	462	4.5	300	45.9	98-2000	L	G	A	7-3	13½	PC	Wa	Str	M	DR	DR	D.Fu	Ch	Spi	Tim 35000H	Ros	L4IHV	385	c	CD	128	81	34	39x2½	53x3	
60	462	4.5	300	45.9	98-2000	L	G	A	7-3	13⅞	PC	Wa	Str	M	DR	DR	D.Fu	Ch	Spi	Tim 35000H	Ros	L4IHV	485	c	RI	128	81	34	39x2½	53x3	
61	248	5.1	145	25.4	61-2600	L	G	C	7-2⅝	11¼	FP	Ha	Str	M	NE	NE	D.Ow	Ow	Spi	Own BL	Ge	L4IH	302	P	FX	109	64¼	33¼	40⅞x2½	52¾x2½	
62	309	4.7	183	31.5	75-2500	L	G	C	7-2⅝	11¼	FP	Ha	Str	M	NE	NE	D.Ow	Ow	Spi	Own BG	Own	O4IMV	427	a	FX	96	54½	33¼	42x2½	54x3	
63	309	4.7	183	31.5	75-2500	L	G	C	7-2⅝	11¼	FP	Ha	Str	M	NE	NE	P.Ow	Ow	Spi	Own BG	Ros	O4IMV	427	a	FD	132	84½	33¼	44x2½	54x3	
64	283	4.4	176	28.9	63-2100	L	G	C	3-3	8¼	PS	Ow	Str	G	NE	NE	D.Ow	Ow	Spi	Own AB	Own	O4IMV	471	a	FX	120	73	33¼	42¼x3	48x3	
65	283	4.4	176	28.9	63-2100	L	G	C	3-3	8¼	PS	Ow	Str	G	NE	NE	D.Ow	Ow	Spi	Own AB	Own	O4IMV	471	a	FX	120	73	33¼	42¼x3	56½x3½	
66	309	4.7	183	31.5	75-2500	L	G	C	7-2⅝	11¼	FP	Ha	Str	M	NE	NE	D.Ow	Ow	Spi	Own AB	Own	O4IMV	471	a	FX	120	73	33¼	42¼x3	48x3	
67	309	4.7	183	31.5	75-2500	L	G	C	7-2⅝	11¼	FP	Ha	Str	M	NE	NE	D.Ow	Ow	Spi	Own AB	Own	O4IMV	471	a	FX	120	73	33¼	42¼x3	56½x3½	
68	414	4.5	261	38.4	94-2400	L	G	C	7-3	13¼	FP	Ha	Str	M	RB	NE	P.Ow	Ow	Spi	Own BM	Ros	O4IMV	427	a	FX	150	108½	33¼	44x2¼	54x3½	
69	414	4.5	261	38.4	94-2400	L	G	C	7-3	13¼	FP	Ha	Str	M	RB	NE	P.Ow	Ow	Spi	Own BC	Own	O4IMV	610	a	JX	120	73	33¼	43¾x3	56½x3½	
70	414	4.5	261	38.4	94-2400	L	G	C	7-3	13¼	FP	Ha	Str	M	RB	NE	P.Ow	Ow	Spi	Own BC	Own	O4IMV	590	a	JX	120	73	33¼	43¾x3	54x3	
71	468	4.7	292	43.4	104-2300	L	G	C	7-3	13¼	FP	Ha	Str	M	NE	NE	P.Ow	Ow	Spi	Own BC	Ros	O4IMV	619	a	JX	144	91	33¼	53¼x3	54x3	
72	468	4.7	292	43.4	104-2300	L	G	C	7-3	13¼	FP	Ha	Str	M	NE	NE	P.Ow	Ow	Spi	Own BC	Ros	O4IMV	619	a	FX	144	91	33¼	53¼x3	56½x3½	
73	525	4.8	350	48.6	125-2300	L	G	C	4-3½	11¼	PS	Ow	Str	M	RB	LN	P.Ow	Ow	Cle	Own AK	Ros	O4IMV	618	a	FD	120	79	33¼	50x3½	59¼x4	
74	611	5.0	398	54.2	128-2200	L	G	C	4-3½	11¼	PS	Ow	Str	M	RB	NE	P.Ow	Ow	Cle	Own BQ	Ros	O4IMV	618	a	FX	150	102	33¼	50x3½	58¼x3½	
75	471	3.9	320	40.0	75-1800	L	G	C	3-3	10¼	PS	Ow	Str	G	RB	NS	P.Ow	Ow	Spi	Own AK	Own	O4IMV	492	a	JX	132	93¼	37½	48x3½	52x4	
76	471	3.9	320	40.0	75-1800	L	G	C	3-3	10¼	PS	Ow	Str	G	RB	NS	P.Ow	Ow	Spi	Own AK	Own	O4IMV	492	a	FX	132	93¼	37½	48x3½	56x4	
77	611	5.0	398	54.2	128-2200	L	G	C	4-3½	11¼	PS	Ow	Str	M	RB	LN	P.Ow	Ow	Spi	Own AK	Ros	O4IMV	561	a	FD	132	93	37½	47¼x3½	58¼x4	
78	468	4.7	292	43.4	104-2300	L	G	C	7-3	13¼	FP	Ha	Str	M	NE	NE	P.Ow	Ow	Spi	Own BC	Ros	O4IMV	619	a	FX	212	138	33¼	53¼x3	56½x3½	
79	471	3.9	320	40.0	75-1800	L	G	C	3-3	10¼	PS	Ow	Str	G	RB	NS	P.Ow	Ow	Spi	Own AC	Own	OJXM	194	c	2I	156	104	37½	46x3½	52x4	
80	471	3.9	320	40.0	75-1800	L	G	C	3-3	10¼	PS	Ow	Str	G	RB	NS	P.Ow	Ow	Spi	Own AC	Own	OJXM	194	c	2I	156	104	37½	46x3½	52x4	
81	471	3.9	320	40.0	75-1800	L	G	C	3-3	10¼	PS	Ow	Str	G	RB	NS	P.Ow	Ow	Spi	Own AC	Own	OJXM	194	c	2I	156	104	37½	46x3½	52x4	
82	611	5.0	398	54.2	128-2200	L	G	C	4-3½	11¼	PS	Ow	Str	M	RB	LN	P.Ow	Ow	Spi	Own AK	Ros	O4IMV	755	c	JX	156	105	37½	48x3½	52x4	
83	706	4.8	427	60.0	138-1900	L	G	S	4-3¼	11¼	PS	Ow	Str	G	RB	LN	P.Ow	Ow	Spi	Own AC	Ros	O2IMV	2584	c	JX	180	108½	37½	46¼x3½	52x4	
84	282	4.7	156	27.3	63-2800	L	G	C	7-2½	10¼	PC	No	Zen	M	DR	DR	P.BB	Yo	Spi	TWH	Ros	L4IH	380	a	FX	88	52	34	42x2½	50x2½	
85	282	5.3	193	33.7	73-2800	L	G	C	7-2½	10¼	PC	No	Zen	M	DR	DR	P.BB	Yo	Spi	TWH	Ros	L4IH	452	a	FD	88	52	34	42x2½	50x2½	
86	339	5.0	235	38.4	94-2800	L	G	A	7-2⅝	13¼	PC	No	Zen	M	DR	DR	P.BB	Yo	Spi	TWH	Ros	L4IHV	578	a	FD	119	72	34	44x3	52x3	
87	383	5.0	265	43.3	106-2800	L	G	A	7-2⅝	13¼	PC	No	Zen	M	DR	DR	P.BB	Yo	Blo	TWH	Ros	L4IHV	660	a	FD	119	72	43	44x3	52x3	
88	383	5.0	265	43.3	106-2800	L	G	A	7-2⅝	13¼	PC	Ha	Zen	M	DR	DR	P.BB	Yo	Blo	Own-Wis	Ros	W2/41A	812	a	FD	119	72	34	44x3	52x3	
89	428	4.4	280	45.9	94-2200	L	G	A	7-3	14	PC	Ha	Zen	M	DR	DR	D.Fu	Yo	Blo	Own-Wis	Ros	W2/41A	812	a	FD	109	72	34	44x3	52x3½	
90	478	4.4	315	51.3	104-2200	L	G	A	7-3	14	PC	Ha	Zen	M	DR	DR	D.Fu	Yo	Blo	Own-Wis	Ros	W2/41A	918	a	FD	109	72	34	44x3	52x3½	
91	529	4.9	350	51.3	114-2200	L	G	A	7-3	14	PC	Ha	Zen	M	DR	DR	D.Fu	Yo	Blo	Own-Wis	Ros	W2/41A	918	a	FD	109	72	34	44x3	52x3½	
92	707	4.5	460	60.0	150-2000	L	G	A	7-3½	17	PC	Ha	Zen	M	DR	DR	dp.BL	Yo	Blo	Own-Wis	Ros	Ws2/41A	974	a	FD	168	102	34	52x4	54x4	
93	779	4.5	508	66.2	164-2000	L	G	A	7-3½	17	PC	Ha	Zen	M	DR	DR	dp.BL	Yo	Blo	Own-Wis	Ros	Ws2/41A	974	a	2FD	140	102	34	52x4	54x4	
94	885	4.5	550	72.8	180-2000	L	G	A	7-3½	17	PC	Ha	Zen	M	DR	DR	dp.BL	Yo	Blo	Own-Wis	Ros	Ws2/41A	974	a	2FD	140	102	34	52x4	54x4	
95	282	5.3	176	33.7	73-2800	L	G	C	7-2½	10¼	PC	No	Zen	M	AL	AL	P.BL	Lo	Spi	Tim 30000H	Ros	L4IH	254	a	TD	132	78	34	40x2½	54x3	
96	282	5.0	176	33.8	73-2800	L	G	C	7-2½	10¼	PC	No	Zen	M	AL	AL	P.BL	Lo	Spi	Tim 31000H	Ros	L4IH	364	a	TD	132	78	34	40x2½	54x3	
97	282	5.0	176	33.8	73-2800	L	G	C	7-2½	10¼	PC	No	Zen	M	AL	AL	P.BL	Lo	Spi	Tim 31000H	Ros	L4IH	364	a	TD	132	78	34	40x2½	54x3	
98	339	4.7	212	38.4	76-2400	L	G	C	7-2⅝	13¼	PC	No	Zen	M	AL	AL	P.BL	Lo	Cle	Tim 33020H	Ros	L4IH	364	a	TD	156	101	34	40x2½	54x3	
99	383	4.4	262	43.3	92-2400	L	G	C	7-2⅝	13¼	PC	No	Zen	M	AL	AL	P.BL	Lo	Cle	Tim 33020H	Ros	L4IH	405	a	TD	156	101	34	41½x2½	54x3	
100	383	4.4	262	43.3	92-2400	L	G	C	7-2⅝	13¼	PC	No	Zen	M	AL	AL	P.BL	Lo	Cle	Tim 35120H	Ros	L4IH	555	a	TD	156	101	34	41½x2½	54x3	
101	501	4.9	330	48.6	110-2200	L	G	C	7-3	12½	PC	No	Zen	M	AL	AL	P.BL	Lo	Cle	Tim26450TW	Ros	W4IA	620	a	TD	168	111¼	34	42x3	56x3½	
102	339	4.7	225	38.4	75-2200	L	G	C	7-2½	13¼	PC	No	Zen	M	AL	AL	P.BL	Ow	Spi	Own J8B	Ha	B4IMV	304	G	TX	77½	51	34	42x2½	44x2½	
103	282	5.3	176	33.7	72-2800	L	G	C	7-2½	10¼	PC	No	Zen	M	AL	AL	P.BL	Ow	Spi	Own J8B	Ha	B4IMV	304	G	TX	103½	77	34	42x2½	44x2½	
104	282	5.3	176	33.7	72-2500	L	G	C	7-2½	10¼	PC	Ha	Str	M	RB	LN	D.BL	Mo	Blo	Own LB	Ros	O4XM	142	C	2I	112¼	82⅛	34	44x2½	50x3	
105	339	4.7	210	38.4	70-2000	L	G	C	7-2⅝	13¼	PC	Ha	Str	M	RB	LN	D.BL	Mo	Blo	Own LC	Ros	O4XM	142	G	2I	112¼	82⅛	34	44x2½	50x3	
106	383	4.7	265	43.3	86-2000	L	G	C	7-2⅝	13¼	PC	Ha	Zen	M	RB	RB	D.BL	Mo	Blo	Own H2A	Ros	O4XM	142	G	2I	112¼	82⅛	34	44x2½	50x3	
107	428	4.4	278	45.9	90-2000	L	G	C	7-3	15	PC	Ha	Zen	M	RB	LN	D.BL	Mo	Blo	Own H2B	Ros	O4XM	142	G	2I	112¼	82⅛	34	44x2½	50x3	
108	501	4.9	330	48.6	106-2000	L	G	C	7-3	12½	PC	Ha	Zen	M	NE	LN	D.BL	Mo	Blo	Own H2C	Ros	O4XM	142	G	2I	112¼	82⅛	34	44x2½	50x3	
109	501	4.9	330	48.6	106-2000	L	G	C	7-3	12½	PC	Ha	Zen	M	NE	LN	D.BL	Mo	Blo	Own Y2D	Ros	O4XM	170	G	2I	112¼	82⅛	34	44x2½	50x3	
110	529	4.9	350	51.2	112-2000	L	G	A	7-3	12½	PC	Ha	Zen	M	RB	LN	D.BL	Mo	Blo	Own FHX	Ros	O4XM	170	G	2I	112¼	82⅛	34	44x2½	50x3	
111	529	4.9	350	51.2	112-2000	L	G	A	7-3	12½	PC	Ha	Zen	M	RB	LN	D.BL	Mo	Blo	Own F2A	Ros	B4IMV	666	G	TX	112¼	82⅛	34	44x3	56x4	
112	707	4.5	455	60.	140-1800	L	G	A	7-3½	17	PC	Ha	Zen	M	RB	LN	dpBL	Mo	Blo	Own GB	Ros	B4IMV	666	G	4I	Opt	Opt	36	48x3½	52x4	
113	779	4.5	500	66.2	154-1800	L	G	A	7-3½	17	PC	Ha	Zen	M	RB	LN	dpBL	Mo	Blo	Own G	Ros	B4IMV	666	G	4I	Opt	Opt	36

Line Number	MAKE AND MODEL	Wheels Driven—6-Wheelers	GENERAL (See Keynote)					TIRE SIZE		MAJOR UNITS									FRAME	
										ENGINE		TRANSMISSION		REAR AXLE						
			Tonnage Rating	Chassis Price	Standard Wheelbase	Max. W. B. Furnished	Gross Vehicle Weight	Chassis Wt. (Stripped)	Front	Rear	Make and Model	No. of Cylinders Bore and Stroke	Make and Model	Location and Forward Speeds	Aux. Location and Speeds	Make and Model	Gear and Type	Drive and Torque	GEAR RATIOS In High	GEAR RATIOS In Low	Side Rail Dimensions	Type
1	Reo (conc'd)	2B-2D	2-3	945	142	166	12500	3865	B6.50/20	DB6.50/20	Own	6-3⅜x5	Own	U	4	No	Own	SF	H	5.83	38.4	7x3x⅛	C
2		2H(2J††)	2-4	1245	142	184	15000	4475	B7.00/20	DB7.00/20	Own	6-3⅜x5	Own	U	4	No	Own	SF	H	6.6	42.9	7x¼x3	C
3		3H(3J,3K††)	2-5	1795	153	205	17500	5125	B7.50/20	DB7.50/20	Own	6-3⅝x5	Own	U	4	No	Own	SF	H	6.5	40.5	8⅛x¼x3	C
4		4H,4J,4M	4-6	2595	170	205	20000	6280	B9.00/20	DB9.00/20	Own	8-3⅝x5	Own	U	4	Op	Own	SF	H	6.14	40.5	10x3x¼	C
5	Schacht	10HA	2-3	1370	156	195	11500	4072	B7.00/20	DB7.00/20	Con 16C	6-3⅝x4½	BL 35	U	4	No	Tim	BF	H	5.83	31.2	6x3x¼	P
6		15HA	2½–3½	1735	156	195	13000	4375	B8.25/20	DB8.25/20	Con 16C	6-3⅝x4½		U	4	No	Tim	BF	H	6.06	38.5	6x3x¼	
7		20HA	2½–4	2185	160	207	15300	4783	B8.25/20	DB8.25/20	Her WXC	6-4x4½	Fu MLU	U	4	No	Tim	BF	H	6.06	38.5	6x3x¼	P
8		25HA	3–4½	2695	146	213	19500	5750	B9.00/20	DB9.00/20	Her WXC	6-4x4½	Fu MGU	U	4	No	Tim	BF	H	6.02	39.2	7x3x¼	P
9		28HA	4–5½	3050	146	227	23000	6600	B9.75/20	DB9.75/20	Her WXC	6-4x4½	Fu MGU	U	4	No	Tim	BF	H	6.83	43.8	7x3x¼	P
10		30HA	4½–6	3295	146	227	23000	6800	B9.75/20	DB9.75/20	Her WXC	6-4x4½	Fu MGU	U	4	No	Wis	2F	R	7.14	46.4	7x3x¼	P
11		35HA	5–7	3725	146	227	24000	7400	B9.75/20	DB9.75/20	Her WXC2	6-4½x4½	Fu MGU	U	4	No	Own	2F	R	8.00	52.0	8½x3x⅛	P
12		40H	5–7	4295	154	235	25500	7600	B9.75/20	DB9.75/20	Her YXC	6-4⅝x4¾	Fu VUOG	U	5	No	Own	2F	R	7.07	49.7	8½x3x⅛	P
13		40HB	7–9	4695	154	235	29500	7750	B10.50/20	DB10.50/20	Her YXC	6-4⅝x4¾	Fu VUOG	U	5	No	Wis	2F	R	7.07	49.7	8½x3x⅛	P
14		66HA	8–11	5895	152	247	35000	9820	B10.50/24	DB10.50/24	Her RXC	6-4⅝x5½	Fu VUOG	U	5	No	Wis	2F	R	7.07	49.8	8½x3x⅛	P
15		(T) TRDA	10	3895	148	174	39000	6450	B9.75/20	DB9.75/20	Her YXC3	6-4⅝x4¾	Fu VUOG	U	5	No	Own	2F	R	7.8	56.8	7x3x¼	P
16	Sterling	FB40	1½–2	1135	142	162	10000	3450	B6.50/20	DB6.50/20	Con 25A	6-3⅜x4	Wa T9	U	4	No	Own	BF	H	5.66	36.2	6x2⅝x⅛	C
17		FB50	2–2½	1240	142	162	11000	3650	B7.00/20	DB7.00/20	Con 25A	6-3⅜x4	Wa T9	U	4	No	Own	BF	H	5.66	36.2	6x2⅝x⅛	C
18		FB60	2½–3	1590	142	162	12000	4150	B7.00/20	DB7.00/20	Wau TL	6-3⅝x4¾	Wa T9	U	4	No	Own	BF	H	5.83	37.3	6x2⅝x⅛	C
19		FB70	2½–3	2635	174	204	13000	5755	B7.50/20	B7.50/20	Wau ML	6-4x4¾	Own UC7	U	5	No	Own	BF	R	7.4	52.7	10x3¼x¼	L
20		FD80	3–4	3065	174	204	16000	6680	B8.25/20	DB8.25/20	Wau 6ML	6-4x4¾	Own UC7	U	5	Op	Own	2F	R	7.4	55.3	10x3¼x¼	L
21		FB80 Spc	3½–4	3010	174	204	16000	6680	B8.25/20	B8.25/20	Wau ML	6-4x4¾	Own UC7	U	5	No	Own	BF	R	7.8	35.6	10x3¼x¼	L
22		FC90	4	4105	174	204	18000	7480	B9.00/20	DB9.00/20	Wau 6MK	6-4½x4¾	Own UC7	U	5	Op	Own	CD	R	8.66	61.7	10x3¼x¼	L
23	•	FD90	4	3315	174	204	18000	7480	B9.00/20	B9.00/20	Wau MK	6-4½x4¾	Own UC7	U	5	No	Own	2F	R	8.0	57.0	10x3¼x¼	L
24		FW97S, FD97S	4–5	4355	192	222	19500	8200	P36x8	DP36x8	Wau 6SRL	6-4⅝x5½	Own UC2	U	4	Op	Own	w/2F	R	7.75	51.6	12x3¼x¼	L
25		FC100	5–5½	4185	192	222	20000	7750	P36x8	DP36x8	Wau 6MK	6-4½x4¾	Own UC2	U	4	Op	Own	CD	R	9.3	61.2	12x3¼x¼	L
26		FC105	5½	4645	192	222	21000	8000	B9.00/20	DB9.00/20	Wau 6SRS	6-4½x5½	Own UC	U	5	Op	Own	CD	R	8.66	61.7	12x3¼x¼	L
27	•	FW115, FD115	5–6	4690	192	222	23000	8750	P40x8	DP40x8	Wau 6SRL	6-4⅝x5½	Own UC2	U	4	Op	Own	w/2F	R	8.20	54.6	12x3¼x¼	L
28		FC107	5–6	4700	192	222	21500	8200	P36x8	DP36x8	Wau 6SRL	6-4⅝x5½	Own UC2	U	4	Op	Own	CD	R	8.20	54.6	12x3¼x¼	L
29		FC120S	7½	4900	192	222	24000	8400	B9.75/20	DB9.75/20	Wau 6SRL	6-4⅝x5½	Own UC2	U	4	J 3	Own	CD	R	8.66	61.7	12x3¼x¼	L
30	•	FW140, FD140	7–8	6005	192	222	28000	10050	P40x8	DP42x9	Wau SRL	6-4⅝x5½	Own UC2	U	4	Op	Own	w/2F	R	10.0	66.6	15x3¼x¼	L
31	•	FC135	7–8	4800	192	222	27000	8900	P40x8	DP40x8	Wau SRL	6-4⅝x5½	Own UC2	U	4	Op	Own	CD	R	9.3	62.2	15x3¼x¼	L
32	•	FC140	8–8½	5595	200	230	28000	9350	P40x8	DP40x8	Wau HB	6-4¼x5¾	Own UC2	U	4	Op	Own	CD	R	8.3	55.2	15x3¼x¼	L
33	•	FC145	8–8½	6180	200	230	29000	10100	P40x8	DP40x8	Wau AB	6-4¼x5¾	Own UC8	U	4	Op	Own	CD	R	9.1	57.9	15x3¼x¼	L
34	•	FW170, FD170	9½–10½	6980	200	230	34000	10550	P40x8	DP44x10	Wau AB	6-4½x5¾	Own UC8	U	4	Op	Own	w/2F	R	10.0	62.7	15x3¼x¼	L
35	•	FC170	9½–10½	6900	200	230	34000	10550	P40x8	DP42x9	Wau RB	6-5x5¾	Own UC8	U	4	Op	Own	CD	R	9.4	58.9	15x3¼x¼	L
36		FD195	12–12½	8925	200	230	39000	10750	B10.50/20	DB10.50/20	Cum H Die.	6-4⅞x6	BL 734	U	4	Op	Wis 1910W	2F	R	8.88	55.8	15x3¼x¼	L
37	Stewart	41X	¾	670	124			2875	B6.50/18	B6.50/18	Lyc	6-3½x4½	WG	U	4	No	Cla	S½	H	5.4	35.1	6x2¼x⅜	T
38		41XS	1	680	134	145		2925	B6.50/18	B6.50/18	Lyc	6-3¼x4½	WG	U	4	No	Cla	S½	H	5.4	35.1	6x2¼x⅜	T
39		44X	1½	695	134	176	8500	3250	B6.50/20	B6.50/20	Lyc	6-3¼x4½	WG	U	4	No	Cla	SF	H	5.61	35.8	7½x2¾x⅜	T
40		42X	1¾	795	145	176	9000	3525	B6.50/20	B6.50/20	Lyc	6-3¼x4½	WG	U	4	No	Cla	SF	H	5.6	35.8	7½x2¾x⅜	T
41		43X	2	995	145	176	10800	4005	B6.50/20	DB6.50/20	Lyc	6-3⅝x4½	WG	U	4	No	Cla	SF	H	6.3	22.	7½x2¾x⅜	T
42		45X	2	1295	145	190	12800	4350	B6.50/20	DB6.50/20	Lyc	6-3⅝x4½	WG	U	4	No	Cla	SF	R	6.37	44.4	7½x2¾x⅜	T
43		29XS	2½	1695	145	220	15000	5190	B7.00/20	DB7.00/20	Lyc	6-3¾x4½	BL	U	5	No	Cla	SF	R	6.37	44.4	7½x2¾x⅜	T
44		32X	3	1990	165	220	18000	5460	B7.00/20	DB7.00/20	Lyc	6-3¾x4½	BL	U	5	No	Cla	SF	R	6.37	44.4	9x2¾x⅜	T
45		58-S	3	2190	170	226	18000	6025	B7.50/20	DB7.50/20	Lyc	8-3¾x4½	Ful	U	5	No	Cla	SF	R	7.1	47.0	9x2¾x⅜	T
46		18X	3½	2690	165	220	20000	6600	B7.50/20	DB7.50/20	Lyc	6-3½x5	Ful	U	5	No	Tim	WF	R	7.25	47.5	9x2¾x⅜	T
47		48-S	3½	2990	170	241	20000	6750	B8.25/20	DB8.25/20	Lyc	8-3¾x4¾	BL	U	5	No	Cla	WF	R	7.1	50.1	9x2¾x⅜	T
48		19X	3½	3690	165	235	20000	7110	B9 00/20	DB9.00/20	Lyc	6-3⅞x5	Fu	U	4	A 3	Tim	WF	R	7.25	127.	9x2¾x⅜	T
49		38-6	3½–5	3990	170	241	23000	7600	B9.00/20	DB9.00/20	Wau	6-4⅝x5½	BL	U	5	A 3	Tim	WF	R	7.25	147.	9x2¾x⅜	T
50		38-8	3½–5	3990	170	241	23000	7600	B9.00/20	DB9.00/20	Lyc	8-3¾x4¾	BL	U	5	A 3	Tim	WF	R	7.25	147.	9x2¾x⅜	T
51		31X	5–6	5190	165	235	30000	9340	B9.75/20	DB9.75/20	Wau	6-4⅝x5½	BL	U	4	A 3	Tim	WF	R	8.2	15.1	9½x2¾x⅜	T
52		27XS	7–8	6190	165	235	33000	10300	B10.50/24	DB10.50/24	Wau	6-4⅝x5½	BL	U	4	A 3	Tim	WF	R	10.1	93.8	9½x2¾x⅜	T
53	Studebaker	(1)S-2	1½–2	670	130	165	9000	3110	B6.00/20	P32x6	Own	6-3¼x4⅝	War T9	U	4	No	Cla B373	SF	H	5.66	36.2	7x2¾x⅛	T
54		S-4	1¾–2½	785	130	165	10500	3445	B6.00/20	DB6.50/20	Own	6-3¼x4⅝	War T9	U	4	No	Cla B412	SF	H	6.8	43.5	7x2¾x⅛	T
55		S-6	2-3	945	141	165	12000	4095	B6.50/20	DB6.50/20	Own	6-3¼x4⅝	War T9	U	4	No	Tim 54200	SF	H	6.8	43.5	7x2¾x⅛	T
56		S-8	3-4	1350	141	183	16000	4875	B6.50/20	DP32x6	Own	6-3¼x4⅝	War T9	U	4	A 2	Tim 58200	SF	H	7.8	75.8	8x2¾x¼	T
57	Ward La Fr.	25R14	2½	2800	176	208	14000	6000	B7.50/20	DB7.50/20	Wau ML	6-4x4¾	BL 324	U	4	No	Tim 54200H	SF	R	Opt	Opt	12x3x¼	B
58		25R16	3	2975	176	208	16000	6200	B8.25/20	DB8.25/20	Wau ML	6-4x4¾	BL 324	U	4	No	Tim 56200H	SF	R	Opt	Opt	12x3x¼	B
59		25R18	3–4	3275	176	208	18000	6400	B9.00/20	DB9.00/20	Wau MK	6-4½x4¾	BL 324	U	4	No	Tim 58205H	SF	R	Opt	Opt	12x3x¼	B
60		30R18	3–4	3675	194	226	19000	7000	B9.00/20	DB9.00/20	Wau MK	6-4½x4¾	BL 524	U	4	No	Tim 65200H	WF	R	Opt	Opt	12x3½x⅛	B
61		320	3–4	3750	194	226	19000	8600	B9.00/20	DB9.00/20	Wau SRL	6-4½x5½	BL 534	U	4	No	Tim 58205H	SF	R	Opt	Opt	12x3½x⅛	B
62		30R-20	3–4	3850	194	226	20000	8600	B9.00/20	DB9.00/20	Wau SRL	6-4½x5½	BL 534	U	4	No	Tim 65200H	WF	R	Opt	Opt	12x3½x⅛	B
63		30R23	3½–5	4175	194	226	23000	7300	B9.75/20	DB9.75/20	Wau MK	6-4½x4¾	BL 524	U	4	No	Tim 65720H	WF	R	Opt	Opt	12x3½x⅛	B
64		35R	4–5	4975	194	226	25000	8700	B9.75/20	DB9.75/20	Wau SRL	6-4½x5½	BL 534	U	4	No	Tim 65720H	WF	R	Opt	Opt	12x3½x⅛	B
65		55RH	5–7½	5350	203	224	30000	10000	B10.50/20	DB10.50/20	Wau SRK	6-4⅝x5½	BL 724	U	4	No	Tim 66720H	WF	R	Opt	Opt	14x3½x¼	T
66		55RW	5–7½	5750	203	224	30000	10050	B10.50/20	DB10.50/20	Wau SRK	6-4⅝x5½	BL 724	U	4	No	Tim 66720W	WF	R	Opt	Opt	14x3½x¼	T
67		75RH	5–7½	6350	210	231	30000	10500	B10.50/20	DB10.50/20	Wau RB	6-5x5¾	BL 734	U	4	No	Tim 66720H	WF	R	Opt	Opt	14x3½x¼	T
68		75RW	5–7½	6750	210	231	30000	10600	B10.50/20	DB10.50/20	Wau RB	6-5x5¾	BL 734	U	4	No	Tim 66720W	WF	R	Opt	Opt	14x3½x¼	T
69		50D	7½	5975	159	173	36000	11000	P40x8	DP40x8	Wau SRL	6-4½x5½	BL 724	U	4	No	Tim 68702D	WF	R	Opt	Opt	14x3½x¼	T
70		100RW	7½–10	7350	210	231	36000	11500	B10.50/24	DB10.50/24	Wau RB	6-5x5¾	BL 734	U	4	No	Tim 68720W	WF	R	Opt	Opt	14x3½x¼	T
71	White (12)	60K	1¼–1½	1850	112	112		3905	B7.00/20	B7 00/20	Own 2A	6-3½x4½	Own 3BC	U	3	No	Own 4C	S½	H	5.87	22.2	5x3x⅛	C
72		601	1¼–1½	1850	138	157		4210	B7.50/20	B7.50/20	Own 2A	6-3½x4½	Own 5B	U	4	No	Own 4C	S½	H	4.73	19.5	6x2⅝x⅛	C
73		161	1¼–1½	1700	138	157		4420	B7.50/20	B7.50/20	Own GRCB	4-4x5¾	Own 5B	U	4	No	Own 4C	S½	H	4.73	19.5	6x2⅝x⅛	C
74		602	1½–2	2055	138	157		4710	B7.00/20	B7.00/20	Own 2A	6-3½x4½	Own 5B	U	4	No	Own 4CB	S½	H	4.73	19.5	6x2⅝x⅛	C
75		162	1½–2	1900	138	157		4710	B7 00/20	DB7.00/20	Own GRCB	4-4x5¾	Own 8B	U	4	No	Own 4CB	S½	H	4.73	19.5	6x2⅝x⅛	C
76		611	2–2½	2450	148	196		4960	B7.00/20	DB7.00/20	Own 4A	6-3¾x4½	Own 5B	U	4	No	Own 7C	S½	H	5.67	23.4	6⅝x3⅛x¼	C
77		211	2–2½	2300	148	198		5170	B7.00/20	DB7.00/20	Own GRCB	4-4x5¾	Own 8B	U	4	No	Own 7C	S½	H	5.67	23.4	6⅝x3⅛x¼	C
78		612	2½–3	2800	148	196		5295	B7.50/20	DB7.50/20	Own 4A	6-3¾x4½	Own 5B	U	4	No	Own 7CB	S½	H	5.67	23.4	6⅝x3⅛x¼	C
79		212	2½–3	2650	148	198		5500	B7.50/20	DB7.50/20	Own GRCB	4-4x5¾	Own 8B	U	4	No	Own 7CB	S½	H	5.67	23.4	6⅝x3⅛x¼	C
80		620	2½–3	4350	157	195		7430	B8.25/20	DB8.25/20	Own 3AD	6-4x5¼	Own 4B	U	4	No	Own 14C	SF	R	6.38	41.8	7⅛x2⅛x⅛	C
81		51A	2½–4	3750	170	190		6438	S36x5°	S36x8°	Own GRB	4-4¼x5¾	OwnGRBA	U	4	No	Own 51A	S½	R	7.14	35.6	8x3x¼	C
82		618	3–4	3600	166	206		6675	B9.00/20	DB9.00/20	Own 4AB	6-3¾x4	Own 11BA	U	5	No	Own 14CB	2F	R	8.15	61.8	8x3¾x¼	C
83		621	3–4	4650	157	195		7945	B9.00/20	DB9.00/20	Own 3AD	6-4x5¼	Own 4B	U	4	No	Own 10C	SF	R	6.33	41.4	7⅛x2⅛x⅛	C
84		630	3–4½	5000	168	215		8500	B9.00/20	DB9.00/20	Own 3AD	6-4x5¼	Own 4B	U	4	No	Own 10C	SF	R	6.33	41.4	8x3x¼	C
85		640	3–4½	6100	180	214		9200	B9.00/20	DB9.00/20	Own 1AB	6-4⅜x5¾	Own 7B	U	4	No	Own 10C	SF	R	5.18	33.9	8⅜x3⅛x¼	C
86		58	3–5	4400	180	195		7797	S36x5°	DS36x5°	Own GRB	4-4¼x5¾	Own 4B	U	4	No	Own 2C	2F	R	7.6	49.7	8⅛x3⅛x⅛	C
87		58-SS	7½	5300	196	196		9300	B10.50/24	DB10.50/24	Own GRB	4-4¼x5¾	Own 4B	U	4	No	O n 6C	2F	R	1.87	7.5	10⅛x3x⅛	C
88		55	5	4650	174	215		8737	S36x5°	DS40x5	Own GRB	4-4¼x5¾	OwnGRBA	U	4	No	Own 55	2F	R	10.1	66.1	18x18.4 lb.	I
89		631	3½–6	5750	168	215		9000	B9.75/20	DB9.75/20	Own 3AD	6-4x5¼	Own 4B	U	4	No	Own 2C	2F	R	8.70	56.9	8x3x¼	C
90		641	3½–6	6450	180	214		9700	B9.75/20	DB9.75/20	Own 1AB	6-4⅜x5¾	Own 7B	U	4	No	Own 2C	2F	R	7.16	46.9	8⅛x3⅛x⅛	C
91		642	4–7½	6750	180	214		10600	B9.75/24	DB9.75/24	Own 1AB	6-4⅜x5¾	Own 7B	U	4	No	Own 13C	2F	R	10.2	66.5	8⅛x3⅛x⅛	C
92		52	5–7½	5100	174	215		9409	S36x6°	S40x12	Own GRB	4-4¼x5¾	OwnGRBA	U	4	No	Own 52	2F	R	11.7	58.4	8x18.4 lb.	I
93		643	5–9	6950	180	214		10900	B10.50/24	DB10.50/24	Own 1AB	6-4⅜x5¾	Own 7B	U	4	No	Own 13C	2F	R	10.2	66.5	8⅛x3⅛x⅛	C
94		691	7–9	7250	129	129		12200	B10.50/24	DB10.50/24	Own 5AD	6-4⅜x5¾	Own 10BB	U	5	No	Own 13CB	2F	R	10.2	63.4	8¼x3¾x⅜	C
95	Willys	77		445	100	100			B5.00/17	B5.00/17	Own 77	4-3¼x4½	Own 77	U	3	No	Own 77	S½	H	4.3	12.5	3¾x1¾x⅜	T
	Six-Wheelers																					
96	Autocar	6GE	4R	15	11000	198	234		16300	B9.75/22	DB9.75/22	Ste LT	6-5¼x6	BL 734	U	4	A 3	Tim SW410	WF	R	8.2	99.6	10½x3x⅛	T
97	Corbitt	20SW6	4R	3–5	5720	Op	Op		9000	B7.50/20	Con 20R	6-4⅝x4¾	BL 615	U	5	No	TimSW150W	w/2F	R	Opt	Opt	8x3½x¼	T
98		28SW6	4R	5–7½	6380	Op	Op		10000	P34x7	Con 21R	6-4⅝x4¾	BL 607	A	7	No	TimSW250W	w/2F	R	Opt	Opt	8x3x⅛	C
99		36SW6	4R	7½–10	8800	Op	Op		11500	P36x8	Con 21R	6-4⅝x4¾	BL 607	A	7	No	TimSW310W	w/2F	R	Opt	Opt	10½x3½x⅛	C
100		40SW6	4R	10–15	11000	Op	Op		13000	P38x9	Con 16H	6-4¾x5¾	BL 707	A	7	No	TimSW410W	w/2F	R	Opt	Opt	10½x3½x⅛	C
101	Day-Elder	285	4R	8	5295	205	234	28500	12000	B8.25/20	DB8.25/20	Her RXC	6-4⅝x5½	BL 534	U	4	No	TiSWD210H	WF	R	7.50	47.6	10x3¼x⅛	C
102		345	4R	10	6395	205	234	34500	12500	B9.00/20	DB9.00/20	Her RXC	6-4⅝x5½	BL 534	U	4	No	TiSWD310W	WF	R	8.50	54.0	10x3¼x⅛	C
103		402	4R	12	7495	205	234	40200	14200	B9.75/20	DB9.75/20	Her RXC	6-4⅝x5½	BL 725	U	5	No	TiSWD410W	WF	R	9.0	63.6	10x3¼x⅛	C
104	Diamond T	801	4R	4	4140	189	219	21000	8500	P36x8	P36x8	Her YXC	6-4⅝x4¾	BL 55	A	7	No	Own	WF	H	Opt	Opt	6½x3x¼	P
105		1201	4R	6	5600	180	210	28000	11000	P34x7	DP34x7	Her RXB	6-4½x5½	BL 60	A	7	No	Tim SW200	WF	R	Opt	Opt	9x3½x¼	P
106		1602	4R	8	6400	175	210	36000	11700	P36x8	DP36x8	Her RXC	6-4⅝x5½	BL 60	A	7	No	Tim SW310	WF	R	Opt	Opt	9x3½x¼	P
107		1603	4R	8	7500	184	224	36000	12500	P36x8	DP36x8	Wau 6RB	6-5x5¾	BL 70	A	7	No	Tim SW310	WF	R	Opt	Opt	9x3½x¼	P
108	Dodge Bros.	UGS50	1½–3		875	153	153		12000	3575	B6.00/20	P32x6	Own		4	No	Own	SF	H	5.85	36.1	7⅞x2⅜x⅛	C
109		GS50	1½–3		955	153	153		12000	3650	B6.00/20	P32x6	Own		4	No	Own	SF	H	5.85	36.1	7⅞x2⅜x⅛	C
110		GS55	2–4		1260	158	158		14575	4450	B7.00/20	DB7.00/20	Own		5	No	Own	SF	H	6.37	50.9	8½x2⅛x⅛	C
111		FS75			3995	221	221		30000	8350	B9.00/20	DB9.00/20	Own		4	No	Own	SF	H	7.13	48.2	10x3¼x⅛	C
112	Fageol	8-46	4R	8	7200	195	220		38000	12200	B9.75/20	DB9.75/20	Wau SRK	BL 554	U	4	A 3	Tim Own	WF	R	5.19	127.	8x3½x⅛	C
113		10-46	4R	10	8700	232	232		54000	14100	B9.75/20	B9.75/20	Wau RB	BL 714	U	4	A 3	Tim Own	WF	R	5.19	127.	8½x4x⅜	C
114	Federal	D2SWL	2R	3	1050	140	182		13750	3925	B6.00/20	P32x6	Con W10	4-3¼x4¼	WG	T9	U	4	No	Cla B373A	SF	H	6.38	40.8	6x2¾x¼	C
115		E2SWL	2R	3	1150	145	187		13750	3975	B6.00/20	P32x6	Con 17E	6-3½x4	WG	T9	U	4	No	Cla B373A	SF	H	6.38	40.8	6x2¾x¼	C
116		D2DL	4R	3	1350	140	182		14000	4235	B6.00/20	P32x6	Con W10	4-3¼x4¼	WG	T9	U	4	No	Cla B373A	BF	H	6.38	40.8	6x2¾x¼	C
117		E2DL	4R	3	1450	145	187		14000	4310	B6.00/20	P32x6	Con 17E	6-3½x4	WG	T9	U	4	No	Cla B373A	BF	H	6.38	40.8	6x2¾x¼	C
118		A600SW	2R	4½–5	2395	170	206		20000	7300	B7.50/20	DB7.50/20	Con E602	6-4½x4½	Own 7784	A	4	No	Cla B642	BF	H	7.16	46.7	6x3½x⅛	P
119		A600D	4R	4½–5	2795	170	206		20000	7700	B7.50/20	DB7.50/20	Con E602	6-4½x4½	Own 7784	A	4	No	Cla B642	BF	H	7.16	46.7	6x3½x⅛	P
120		T10SW	2R	7	3895	188	224		28000	9600	P34x7	DP34x7	Con 20R	6-4½x4¾	Cla B710	A	5	No	Tim 58200H	BF	H	7.8	50.6	7½x3½x¼	P

Line Number	ENGINE DETAILS: Piston Displacement	Compression Ratio	Torque lb. ft.	N.A.C.C. Rated H.P.	Max. Brake H.P. at R.P.M. Given	Valve Arrangement	Camshaft Drive	Main Bearings: Number and Diameter	Main Bearings: Length	Piston Material	Oiling System Type	Governor Make	FUEL SYST.: Carburetors Make	Fuel Feed	ELECTRICAL: Ignition System Make	Generator, Starter Make	Clutch Type and Make	Radiator Make	Universals Make	FRONT AXLE: Make and Model	Steering Gear Make	BRAKES: SERVICE: Make, Location Type Operation	Lining Area	Drum Material	Hand Type, Location	BODY MOUNTING DATA: Cab to Rear of Frame	Cab to Rear Axle	Width of Frame	SPRINGS: Front	Rear	Auxiliary Type
1	268	4.9	175	27.3	75–2800	L	C	A 7-2¼	12	CC	No	Str	M	DR	DR	P.Lo	Ow	Cle	Own	Ros	L4IH	289	C	TX	105	60	34	40x2¼	52x2½	½
2	268	4.9	175	27.3	75–2800	L	C	A 7-2¼	12	CC	No	Str	M	DR	DR	P.BL	Mc	Cle	Own	Ros	L4IH	289	a	TX	116	60	34	40x2½	52x2½	½
3	309	4.9	200	31.5	85–2800	L	C	A 7-2⅝	12	CC	No	Str	M	DR	DR	P.BL	Mc	Cle	Own	Ros	L4IH	344	a	FD	124	68	34	44x3	54x3	½
4	358	4.9	230	36.4	110–2800	L	G	A 9-2⅝	12½	FP	EV	Sch	M	DR	DR	dp.Lo	Mc	Cle	Own	Ros	L4IHV	390	a	FD	143	83	34	44x3	56x3½	½
5	248	5.1	150	27.3	65–2600	L	G	C 7-2⅝	10⅝	FP	No	Str	M	DR	DR	D.BL	Yo	Spi	Tim	Ros	L4IH	380	G	TX	129½	Opt	31½	40x2½	50x3	½
6	248	5.1	150	27.3	65–2600	L	G	C 7-2⅝	10⅝	FP	No	Zen	M	DR	DR	D.BL	Yo	Spi	Tim	Ros	L4IH		G	TX	129½	Opt	31½	40x2½	50x3	½
7	339	4.7	225	38.4	73–2200	L	G	C 7-2⅝	13¼	PC	Mo	Str	M	AL	AL	D.BB	Yo	Spi	Tim	Ros	L41HV	452	G	TX	129½	Opt	31½	40x2½	50x3	½
8	339	4.7	225	38.4	73–2200	L	G	C 7-2⅝	13¼	PC	Mo	Str	M	AL	AL	D.Fu	Yo	Spi	Tim	Ros	L41HV	578	G	TX	106	Opt	31½	40x2½	50x3	½
9	339	4.7	225	38.4	73–2200	L	G	C 7-2⅝	13¼	PC	Mo	Str	M	AL	AL	D.Fu	Yo	Spi	Tim	Ros	L41HV	658	G	TX	106	Opt	31½	40x2½	50x3	½
10	339	4.7	225	38.4	73–2200	L	G	C 7-2⅝	13¼	PC	Mo	Str	M	AL	AL	D.Fu	Yo	Spi	Tim	Ros	L41HV	658	G	TX	106	Opt	31½	40x2½	50x3	½
11	360	4.7	238	40.3	80–2200	L	G	C 7-2⅝	13¼	PC	Mo	Str	M	AL	AL	D.Fu	Yo	Spi	Shu	Ros	L41HV	768	H	TD	106	Opt	31½	40x2½	50x3	½
12	428	4.4	280	45.9	93–2200	L	G	C 7-3	15	PC	Mo	Str	M	AL	AL	D.Fu	Yo	Spi	Shu	Ros	L41HV	768	H	TD	106	Opt	31½	40x2½	50x3	½
13	428	4.4	280	45.9	93–2200	L	G	C 7-3	15	PC	Mo	Str	M	AL	AL	D.Fu	Yo	Spi	Shu	Ros	L41HV	893	G	TD	106	Opt	31½	40x2½	50x3	½
14	529	4.9	355	51.2	115–2200	L	G	C 7-3	15	PC	Mo	Str	M	AL	AL	D.Fu	Yo	Spi	Shu	Own	Ws41A	847	G	TD	118	Opt	31½	42x3	60x3½	½
15	478	4.4	318	51.2	103–2200	L	G	C 7-3	15	PC	Mo	Str	M	AL	AL	D.Fu	Yo	Spi	Tim	Ros	L41HV	893	H	TD	92	Opt	31½	40x2½	50x3	½
16	214	5.0	137	28.0	72–3300	L	C	A 4-2⅝	6⅜	CC	No	Zen	M	DR	DR	P.Lo	Pe	Spi	Tim 30000H	Ros	L41H	269	P	TX	96	57	34	38x2¼	50x2½	N
17	214	5.0	137	28.0	72–3300	L	C	A 4-2⅝	6⅜	CC	No	Zen	M	DR	DR	P.Lo	Pe	Spi	Tim 30000H	Ros	L41H	269	P	TX	96	57	34	38x2¼	50x2½	N
18	255	5.0	175	28.0	68–2600	L	G	C 4-2⅝	7⅛	CC	No	Zen	M	DR	DR	P.Lo	Pe	Spi	Tim 31000H	Ros	L41H	282	P	TX	96	57	34	38x2¼	50x2½	N
19	358	4.4	230	38.4	80–2500	L	G	C 7-2⅝	12½	CC	Ha	Zen	M	DR	DR	D.Own	Mo	Spi	Tim 31000H	Ros	L41HV	330	a	CX	144	91	34	42x2½	54x3	½
20	358	4.4	230	38.4	80–2500	L	G	C 7-2⅝	12½	CC	Ha	Zen	M	DR	DR	D.Own	Mo	Spi	Tim 33000H	Ha	L41HV	396	a	CX	144	91	34	42x2½	54x3	½
21	358	4.4	230	38.4	80–2500	L	G	C 7-2⅝	12½	CC	Ha	Zen	M	DR	DR	D.Own	Mo	Spi	Tim 33000H	Ha	L41HV	392	a	CX	144	91	34	42x2½	54x3	½
22	381	4.4	240	40.8	85–2500	L	G	C 7-2⅝	12½	CC	Ha	Zen	M	DR	DR	D.Own	Mo	Spi	Tim 33000H	Ha	O2IMV	466	s	JX	144	91	34	42x2½	54x3	½
23	381	4.4	240	40 8	85–2500	L	G	C 7-2⅝	12½	CC	Ha	Zen	M	DR	DR	D.Own	Mo	Spi	Tim 33000H	Ha	L41HV	397	a	CX	144	91	34	42x2½	54x3	½
24	462	4.5	300	45.9	102–2400	L	G	C 7-3	13¾	CC	Ha	Zen	M	DR	DR	D.Own	Mo	Spi	Tim 35000H	Ros	L41HV	664	a	CX	172	108	34	48x3	54x3	½
25	381	4.4	240	40.8	85–2500	L	G	C 7-2⅝	12½	CC	Ha	Zen	M	DR	DR	D.Own	Mo	Spi	Tim 35000H	Ros	O2IMV	576	a	JX	172	108	34	48x3	54x3	½
26	411	4.6	260	40.8	91–2400	L	G	A 7-3	13¾	CC	Ha	Zen	M	DR	DR	D.Own	Mo	Spi	Tim 35000N	Ros	O2IMV	562	s	JX	172	108	34	48x3	54x3	½
27	462	4.5	300	45.9	102–2400	L	G	C 7-3	13⅝	CC	Ha	Zen	M	DR	DR	D.Own	Mo	Spi	Tim 35000H	Ros	L41HV	664	a	CX	172	108	34	48x3	54x3	½
28	462	4.5	300	45.9	102–2400	L	G	C 7-3	13⅝	CC	Ha	Zen	M	DR	DR	D.Own	Mo	Spi	Tim 35000N	Ros	O2IMV	576	a	JX	172	108	34	48x3	54x3	½
29	462	4.5	300	45.9	102–2400	L	G	C 7-3	13⅝	CC	Ha	Zen	M	DR	DR	D.Own	Mo	Spi	Tim 35000N	Ros	O2IMV	658	s	JX	172	108	34	48x3	54x3	½
30	462	4.5	300	45.9	102–2400	L	G	C 7-3	13⅝	CC	Ha	Zen	M	DR	DR	D.Own	Mo	Spi	Tim 26450TN	Ros	Ws41A	690	a	CX	172	108	34	48x3	60x4	½
31	462	4.5	300	45.9	102–2400	L	G	C 7-3	13⅝	CC	Ha	Zen	M	DR	DR	D.Own	Mo	Spi	Tim 26450N	Ros	O2IMV	500	s	JX	172	108	34	48x3	54x3	½
32	489	4.5	295	43.4	90–2000	L	G	C 4-3½	11⅜	CC	Ha	Zen	M	DR	DR	D.Own	Mo	Spi	Tim 26450N	Ros	O2IMV	666	s	JX	168	107	34	48x3	54x3	½
33	549	4.5	330	48.6	99–2000	L	G	C 4-3½	11⅜	CC	Ha	Zen	M	DR	DR	D.Own	Mo	Spi	Tim 26450N	Ros	O2IMV	666	s	JX	168	107	34	48x3	54x3	½
34	549	4.5	330	48.6	99–2000	L	G	C 4-3½	11⅜	CC	Ha	Zen	M	DR	DR	D.Own	Mo	Spi	Tim 27050TW	Ros	Ws41A	690	a	CX	163	107	34	48x3	60x4	½
35	677	4.4	440	60.0	125–2000	L	G	A 4-3½	11⅜	CC	Ha	Zen	M	DR	DR	D.Own	Mo	Spi	Tim 27450N	Ros	O2IMV	666	s	JX	168	107	34	48x3	54x3	½
36	672	17.	420	57.0	125–1800	H	G	C 7-3½	16½	CC	En	No	M	CI	LN	P.BL	Mo	Spi	Tim 27456TW	Ros	Ws41A	718	a	CX	163	107	34	48x3	60x4	½
37	207	4.8	142	23.4	56–2600	L	G	C 4-2⅝	8¼	CC	No	Zen	P	DR	DR	P.BB	Fe	Spi	Spi	Ros	B4IM	180	a	4X	81	41¼	32½	38½x2¼	50x2½	N
38	207	4.8	142	23.4	56–2600	L	G	C 4-2⅝	8¼	CC	No	Zen	P	DR	DR	P.BB	Fe	Spi	Spi	Ros	B4IM	180	a	4X	92	51⅝	32½	38½x2¼	50x2½	N
39	224	4.8	142	25.3	62–2800	L	G	C 4-2⅝	8¼	CC	No	Zen	P	DR	DR	P.BB	Fe	Spi	Spi	Ros	B4IM	226	a	TX	92	51⅝	32½	38½x2¼	50x2½	N
40	224	4.8	142	25.3	62–2800	L	G	C 4-2⅝	8¼	CC	No	Zen	P	DR	DR	P.BB	Fe	Spi	Spi	Ros	B4IM	317	a	TX	92	51⅝	32½	38x2¼	50x2½	N
41	242	5.	162	27.3	65–2800	L	G	C 4-2⅝	8¼	CC	No	Zen	P	DR	DR	P.BB	Fe	Spi	Spi	Ros	B4IM	317	a	TX	103½	62⅝	32½	38½x2¼	50x2½	½
42	242	5.	162	27.3	65–2800	L	G	C 4-2⅝	8¼	CC	No	Zen	P	DR	DR	P.BB	Fe	Spi	Spi	Ros	B4IM	349	a	TX	104⅝	58⅝	32½	38½x2¼	50x3	½
43	299	5.0	193	33.8	85–2750	L	G	C 4-2⅝	9	FP	Mo	Str	P	DR	DR	P.BL	Fe	Spi	Cla	Ros	B4IM	524	a	TX	104⅝	58⅝	32½	38x2¼	50x3	½
44	299	5.0	193	33.8	85–2750	L	G	C 4-2⅝	9	FP	Mo	Str	P	DR	DR	P.BL	Fe	Spi	Cla	Ros	B4IM	594	a	TX	127⅝	79	32½	38x2¼	50x3	½
45	322	4.6	224	36.2	90–2750	L	G	C 4-2⅝	10	FP	Mo	Str	P	DR	DR	P.Fu	Fe	Spi	Tim	Ros	B4IM	594	a	TX	129¾	79	32¼	40x3	56x3	½
46	354	5.2	225	36.5	90–2750	L	G	C 5-2⅝	11	FP	Mo	Str	P	DR	DR	P.Fu	Fe	Spi	Cla	Ros	B4IM	670	a	TF	126¾	79	32¼	40x3	50x3	½
47	420	5.2	300	44.4	130–2800	L	G	C 5-2⅝	12¾	FP	No	Str	P	DR	DR	P.BL	Fe	Spi	Cla	Ros	B4IMV	594	a	TX	128½	75	32¼	40x3	56x3	½
48	354	4.6	224	36.2	90–2750	L	G	C 4-2¾	10	FP	Mo	Str	P	DR	DR	D.Fu	Fe	Spi	Eat	Ros	B4IM	670	a	TX	126¾	76¼	32¼	40x3	56x3	½
49	462	4.6	300	45.9	100–2000	L	G	C 7-3	12⅞	FP	Mo	Str	P	DR	DR	P.BL	Fe	Spi	Eat	Ros	B4IMV	670	a	TX	128½	75⅝	32¼	40x3	56x3	½
50	420	5.2	300	44.4	130–2800	L	G	C 5-2¾	12¾	FP	No	Str	P	DR	DR	P.BL	Fe	Spi	Eat	Ros	B4IMV	670	a	TX	128½	75⅝	32¼	40x3	56x3	½
51	516	4.5	330	51.2	110–2000	L	G	C 7-3	12⅞	FP	Wa	Str	P	DR	DR	P.BL	Mo	Spi	Eat	Ros	B4IMV	708	a	TX	128	73	34	40x3	56x4	½
52	516	4.5	330	51.2	110–2000	L	G	C 7-3	12⅞	FP	Wa	Str	P	DR	DR	P.BL	Mo	Spi	Eat	Ros	Ws41A	902	a	TX	128	73	34	40x3	56x4	½
53	230	4.6	154	25.4	75–3200	L	G	C 4-2½	8	CC	No	Str	M	DR	DR	P.Lo	Mc	Spi	Cla F212	Ros	B4IM	231	a	4I	83¼	48⅛	33	36x1¾	45x2½	O
54	230	4.6	154	25.4	75–3200	L	G	C 4-2½	8	CC	Ha	Str	M	DR	DR	P.Lo	Mc	Spi	Cla F212	Ros	B4IMV	231	a	4I	83¼	48⅛	33	36x1¾	45x2½	½
55	259	4.6	154	25.4	75–3200	L	G	C 4-2½	8	CC	Ha	Str	M	DR	DR	DP.Lo	Mc	Cle	Tim 31010	Ros	B4IMV	284	D	4I	97¼	60	34	39x2	56x3	½
56	230	4.6	154	25.4	75–3200	L	G	C 4-2½	8	CC	Ha	Str	M	DR	DR	DP.Lo	Mc	MM	Tim 31020	Ros	B4IMV	420	a	4I	97	60	34	39x2½	56x3	½
57	358	4.6	228	38.4	77–2200	L	G	C 7-2⅝	12½	FP	No	Zen	M	DR	DR	P.BL	Pe	Spi	Tim 33000H	Ros	L41HV	260	a	TD	144	90⅛	33	40x2¼	52x3	½
58	358	4.6	228	38.4	77–2200	L	G	C 7-2⅝	12½	FP	Mo	Zen	M	DR	DR	P.BL	Pe	Spi	Tim 33000H	Ros	L41HV	330	a	TD	144	90⅛	33	40x2¼	52x3	½
59	381	4.6	240	40.8	83–2200	L	G	C 7-2⅝	12½	FP	Mo	Zen	M	DR	DR	P.BL	Pe	Spi	Tim 33000H	Ros	L41HV	375	a	TD	144	90⅛	33	40x2¼	52x3	½
60	381	4.6	240	40.8	83–2200	L	G	C 7-2⅝	12½	FP	Mo	Zen	M	DR	DR	P.BL	Pe	Spi	Tim 35000H	Ros	L41HV	375	a	TD	168	105	33	40x2½	52x3	½
61	462	4.6	300	45.9	102–2200	L	G	C 7-3	13⅞	FP	Mo	Zen	M	DR	DR	P.BL	Pe	Spi	Tim 35000H	Ros	L41HV	375	a	TD	168	105	33	40x2½	52x3	½
62	462	4.6	300	45.9	102–2200	L	G	C 7-3	13⅞	FP	Mo	Zen	M	DR	DR	P.BL	Pe	Spi	Tim 35000H	Ros	L41HV	460	a	TD	168	105	33	40x2½	52x3	½
63	381	4.6	240	40.8	83–2200	L	G	C 7-2⅝	12½	FP	Mo	Zen	M	DR	DR	P.BL	Pe	Spi	Tim 35000H	Ros	L41HV	460	a	TD	168	105	33	40x2½	52x3	½
64	462	4.6	300	45.9	102–2200	L	G	C 7-3	13⅞	FP	Mo	Zen	M	DR	DR	P.BL	Pe	Spi	Tim 35000H	Ros	L41HV	460	a	TD	168	105	33	40x2½	52x3	½
65	517	4.6	330	51.3	110–2200	L	G	C 7-3	13⅞	FP	Mo	Zen	M	DR	DR	P.BL	Pe	Spi	Tim 35100H	Ros	L41HV	650	a	TD	192	117½	33	40x3	56x3½	½
66	517	4.6	330	51.3	110–2200	L	G	C 7-3	13⅞	FP	Mo	Zen	M	DR	DR	P.BL	Pe	Spi	Tim35100TW	Ros	Ws41A	590	a	TD	192	117½	33	40x3	56x3½	½
67	677	5.5	465	60.	145–2000	L	G	C 4-3½	11¼	FP	Wa	Zen	M	DR	DR	P.BL	Pe	Spi	Tim27452TW	Ros	L41HV	650	a	TD	192	117½	33	42x3	56x3½	½
68	677	5.5	465	60.	145–2000	L	G	C 4-3½	11¼	FP	Wa	Zen	M	DR	DR	P.BL	Pe	Spi	Tim27452TW	Ros	Ws41A	590	a	TD	192	117½	33	42x3	56x3½	½
69	677	5.5	465	60.	145–2000	L	G	C 4-3½	11¼	FP	Wa	Zen	M	DR	DR	P.BL	Pe	Spi	Tim 16302	Ros	T2IMV	485	a	TD	124	88	37	44x3	56x3¼	½
70	677	5.5	465	60.	145–2000	L	G	C 4-3½	11¼	FP	Wa	Zen	M	DR	DR	P.BL	Pe	Spi	Tim27452TW	Ros	Ws41A	590	a	TD	192	117½	33	42x3	56x4	½
71	260	4.8	150	29.4	54–2100	L	C	S 7-2⅝	10¼	FP	No	Zen	V	DR	LN	P.Ow	Ow	Spi	Own 4D	Ha	L41H	276	a	TX	....	....	34½	39x2¼	50x2½	N
72	260	4.8	150	29.4	54–2100	L	C	S 7-2⅝	10¼	FP	No	Zen	V	DR	DR	P.Ow	Ow	MM	Own 4D	Ha	L41H	276	a	TX	112	58¼	34½	39x2¼	50x2½	N
73	289	4.3	170	25.6	45–1800	L	G	C 3-2¼	11⅜	FP	Ow	Zen	V	DR	DR	P.Ow	Ow	MM	Own 4D	Ha	L41H	276	a	TX	112	58¼	34½	39x2¼	50x2½	N
74	260	4.8	150	29.4	54–2100	L	C	S 7-2⅝	10¼	FP	No	Zen	V	DR	DR	P.Ow	Ow	MM	Own 4D	Ha	L41H	276	a	TX	112	58¼	34½	39x2¼	50x2½	N
75	289	4.3	170	25.6	45–1800	L	G	C 3-2¼	11⅜	FP	Ow	Zen	V	DR	DR	P.Ow	Ow	MM	Own 4D	Ha	L41H	276	a	TX	112	58¼	34½	39x2½	50x2½	N
76	299	4.8	190	33.7	70–2100	L	C	C 7-2⅝	10¼	FP	Ha	Zen	V	DR	DR	P.Ow	Ow	Spi	Own 7D	Ha	L41H	343	a	TX	115	68	34½	41x2½	54x3	N
77	289	4.3	170	25.6	45–1800	L	G	C 3-2¼	11⅜	FP	Ow	Zen	V	DR	DR	P.Ow	Ow	Spi	Own 7D	Ha	L41H	343	a	TX	115	68	34½	41x2½	54x3	N
78	299	4.8	190	33.7	70–2100	L	C	C 7-2⅝	10¼	FP	Ha	Zen	V	DR	DR	P.Ow	Ow	Spi	Own 7D	Ha	L41H	343	a	CX	115	68	34½	41x2½	54x3	N
79	289	4.3	170	25.6	45–1800	L	G	C 3-2¼	11⅜	FP	Ow	Zen	V	DR	DR	P.Ow	Ow	Spi	Own 7D	Ha	L41H	343	a	TX	115¾	68	34½	41x2½	54x3	N
80	396	4.9	250	38.4	100–2100	H	C	S 7-2¾	13½	FP	Ow	Zen	M	DR	DR	P.Ow	Ow	Spi	Own 11D	Ros	LO4IH	414	a	CI	107½	67½	34	41x2½	54x3	N
81	326	4.3	207	28.9	54–1600	L	G	C 3-2¼	11⅜	FP	Ow	Zen	V	Ei	ns	P.Ow	Ow	Spi	Own 51A	Ow	O2IM	335	a	CX	146	84⅜	34	40½x2½	54⅜x3	N
82	290	5.5	202	33.7	77–2400	L	C	S 7-2⅝	10¼	FP	Ha	Zen	V	DR	DR	P.Ow	Ow	Spi	Own 11DC	Ros	LO4IHV	414	a	2I	140	84	34	41x2½	54x3	½
83	396	4.9	250	38.4	100–2100	H	C	S 7-2¾	13½	FP	Ow	Zen	M	DR	DR	P.Ow	Ow	Spi	Own 11D	Ros	LO4IH	484	a	CI	107½	67½	34	41x2½	54x3½	N
84	396	4.9	250	38.4	100–2100	H	C	S 7-2¾	13½	FP	Ow	Zen	M	DR	DR	P.Ow	Ow	Spi	Own 6D	Ros	O4IH	553	a	CI	144⅞	84⅞	34	42x3	56x3½	½
85	519	4.0	333	45.9	118–2100	H	C	S 7-3	15½	FP	Ow	Zen	E	LN	LN	dp.Ow	Ow	Spi	Own 6D	Ros	O4IA	553	a	CI	156¾	91¾	34	42x3	56x3½	½
86	326	4.3	207	28.9	54–1600	L	G	C 3-2¼	11⅜	FP	Ow	Zen	V	Ei	ns	P.Ow	Ow	Spi	Own 2D	Own	OPXM	224	a	2I	148½	93½	34	40½x3	56x3½	½
87	326	4.3	207	28.9	54–1800	L	G	C 3-2¼	11⅜	FP	Ow	Zen	V	LN	LN	P.Ow	Ow	Spi	Own 9D	Ros	OPXM	224	a	2I	176	120	38½	42x3	57x5	N
88	326	4.3	207	28.9	54–1600	L	G	C 3-2¼	11⅜	FP	Ow	Zen	V	Ei	ns	P.Ow	Ow	Spi	Own 55	Own	OPXM	224	a	2I	167⅝	107½	42½	44x3	51⅞x5	N
89	396	4.9	250	38.4	100–2100	H	C	S 7-2¾	13½	FP	Ow	Zen	M	DR	DR	P.Ow	Ow	Spi	Own 9D	Ros	O4IA	595	a	CI	144⅞	84⅞	34	42x3	56x3½	½
90	519	4.0	333	45.9	118–2100	H	C	S 7-3	15½	FP	Ow	Zen	E	LN	LN	dp.Ow	Ow	Spi	Own 9D	Ros	O4IA	595	a	CI	156¾	91¾	34	42x3	56x3½	½
91	519	4.0	333	45.9	118–2100	H	C	S 7-3	15½	FP	Ow	Zen	E	LN	LN	dp.Ow	Ow	Spi	Own 9D	Ros	O4IA	623	a	CI	156¾	91¾	34	42x3	51⅞x5	N
92	326	4.3	207	28.9	54–1800	L	G	C 3-2¼	11⅜	FP	Ow	Zen	V	Ei	ns	P.Ow	Ow	Spi	Own 52	Ow	OPXM	224	a	2I	167⅝	107½	42½	44x3	51⅞x5	N
93	519	4.0	333	45.9	118–2100	H	C	S 7-3	15½	FP	Ow	Zen	E	LN	LN	dp.Ow	Ow	Spi	Own 9D	Ros	O4IA	623	a	CI	156¾	91¾	34	42x3	51⅞x5	N
94	580	4.6	385	51.3	130–2300	H	C	S 7-3	15½	FP	Ow	Zen	M	DR	LN	P.Ow	Ow	Spi	Own 5D	Ros	O4IA	623	a	TD	100	65	36	44x3	55⅛x5	N
95	134	5.1	100	15.6	48–3200	L	C	C 3-2	5	CC	No	Ti	M	AL	AL	P.Ow	Fe	.....	Own 77	....	B4IM	134	P	4I	.....	.....	....	30x1¾	46x1¾	N
96	780	4.7	475	66.1	156–1800	L	G	A 7-3	16⅛	FP	St	Ze2	M	NE	LN	dp.BL	GO	Spi	Tim 27450	Ros	Ws6IA	720	a	FD	181½	101½	34¼	42½x3	61x5	½
97	411	4.2	236	40.0	89–2400	H	C	C 7-2¾	13	FP	No	Zen	M	DR	DR	P.BL	Pe	Spi	Tim 35100tw	Ros	Ws6IA	459	a	TD	Opt	Opt	34	40x2½	56x4	½
98	427	4.2	268	45.9	100–2600	H	C	C 7-2¾	13	FP	No	Zen	M	DR	DR	P.BL	Pe	Spi	Tim 26450W	Ros	Ws6IA	525	a	TD	Opt	Opt	34	46x3	56x4	½
99	427	4.2	268	45.9	100–2600	H	C	C 7-2¾	13	FP	No	Zen	M	DR	DR	P.BL	Pe	Spi	Tim 27450W	Ros	Ws6IA	536	a	TD	Opt	Opt	34	46x3	66x4	½
100	611	4.5	384	54.1	127–2300	L	G	A 7-3	13½	FP	No	Zen	M	DR	DR	P.BL	Pe	Spi	Tim 27450W	Ros	Ws6IA	720	a	TD	Opt	Opt	34	46x3	66x4	½
101	529	4.4	347	51.3	114–2200	L	G	A 7-3	12½	PC	No	Zen	M	DR	DR	P.BL	Pe	Spi	Tim 26450H	Ros	L61H	842	a	DF	213	120	33	46x3	64x4	½
102	529	4.4	347	51.3	114–2200	L	G	A 7-3	12½	PC	No	Zen	M	DR	DR	P.BL	Pe	Spi	Tim 26450W	Ros	Ws6IA	1014	a	DF	213	120	33	46x3	64x5	½
103	529	4.4	347	51.3	114–2200	L	G	A 7-3	12½	PC	No	Zen	M	DR	DR	P.BL	Pe	Spi	Tim 26450W	Ros	Ws6IA	1014	a	DF	213	120	33	45x3	64x5	½
104	428	4.4	280	45.9	93–2200	L	G	C 7-3	14	PC	Ha	Zen	M	AL	AL	D.Co	GO	SpP	Shu 5582B	Ros	L61HV	571	a	TD	162	103	34	45¼x2½	58x4	N
105	501	4.4	330	48.6	111–2200	L	G	C 7-3	12½	PC	Ha	Zen	M	AL	AL	D.Co	GO	SpB	Shu 678	Ros	Ws41A	238	a	TD	162	100¼	37	46x3	50x4	N
106	326	4.4	350	51.3	114–2200	L	G	C 7-3	12½	PC	Ha	Zen	M	AL	AL	D.Co	GO	SpB	Shu 678	Ros	Ws41A	238	a	TD	138¾	94¾	37	46x3	50x4	N
107	677	..	418	60.0	127–2000	L	G	C 4-3½	11⅜	PC	Wa	Zen	M	LN	LN	D.BL	GO	SpB	Shu 678	Ros	Ws41A	238	a	TD	141	93	37	46x3	50x4	N
108	196	4.6	124	21.0	48–2800	L	C	A 3-2¼	6¼	CC	No	Car	M	DR	DR	P.BB	Fe	Own	Own	Own	O6IHV	273	a	TX	117½	55½	34¼	36x1¾	43⅜x3	N
109	211	5.3	134	25.3	60–3100	L	C	A 4-2¼	6¼	CC	No	Car	M	DR	DR	P.BB	Fe	Own	Own	Own	O6IHV	273	a	TX	117½	50½	34½	36x1¾	43⅜x3	N
110	217	5.8	144	25.3	75–3200	L	C	S 4-2¼	6¼	CC	Ha	Car	M	DR	DR	P.BB	Fe	Own	Own	Own	O6IHV	365	a	TX	145	50½	38	39x2	43⅜x3	N
111	309	4.7	198	21.0	96–3000	L	C	S 7-2⅝	11¾	CC	Ha	Det	M	DR	DR	P.BB	Lo	Own	Own	Jac	O6IHV	657	a	CD	218	114⅜	34	42x3	56¼x4	N
112	517	4.5	340	51.3	108–2000	L	G	A 7-3	13⅞	PC	No	Zen	M	DR	DR	P.BL	Pe	Spi	Tim 35000N	Ros	Ws4RIA	630	H	FD	192	114⅜	33½	41x3	46x3½	N
113	677	4.4	460	60.	125–1800	L	G	A 4-3½	11⅜	PC	No	Zen	M	DR	DR	P.BL	Pe	Spi	Tim 17300	Ros	Ws4RIA	630	H	FD	214	144

Line Number	MAKE AND MODEL	Wheels Driven—6-Wheelers	GENERAL (See Keynote) Tonnage Rating	Chassis Price	Standard Wheelbase	Max. W. B. Furnished	Gross Vehicle Weight	Chassis Wt. (Stripped)	TIRE SIZE Front	TIRE SIZE Rear	MAJOR UNITS ENGINE Make and Model	ENGINE No. of Cylinders Bore and Stroke	TRANSMISSION Make and Model	TRANSMISSION Location and Forward Speeds	TRANSMISSION Aux. Location and Speeds	REAR AXLE Make and Model	REAR AXLE Gear and Type	REAR AXLE Drive and Torque	REAR AXLE GEAR RATIOS In High	REAR AXLE GEAR RATIOS In Low	FRAME Side Rail Dimensions	FRAME Type
1	FWD.....MX6	6	10–15	12255	200	Op	48000	17800	B13.50/20	DB13.50/20	Wau RB	6-5x5¾	BL 714	U 4	A 2	Wis 131TW	2F	H	8.36	173.	10x3x¼	C
2	.....X6	4F	6–10	7385	170	Op	36000	12000	B9.75/20	DB9.75/20	Wau SRK	6-4⅝x5½	Own U	A 5	Op	Own X	BF	H	7.35	73	7x3x⅛	C
3	(6)Gen.Mo.T90	4R	5–7½	4690	185	220	28000	9570	B7.50/20	DB7.50/20	Own 400	6-4½x5	Own	U 5	Op	Own	WF	R	9.25	76.0	9 x3½x¼	TL
4	.....T95	4R	9–11	7695	189	224	40000	13250	P34x7	DP34x7	Own 525	6-4½x5½	Own	U 4	Op	Own	WF	R	8.50	53.3	9 x4x¼	L
5	.....T130	4R	12–15	9490	189	224	50000	14545	B9.75/20	DB9.75/20	Own 616	6-4½x5½	Own	U 4	A 3	Own	WF	R	9.50	119.	9 x4x⅜	L
6	Ind..95SBT-151	2C	3	1675	168	186	20000	5500	P32x6	DP32x6	Her JXC	6-3¾x4¼	BL 224	U 4	No	Tim SBT151	SF	T	7.4	45.8	7 x2¾x⅜	C
7	.....95SW 75	4R	3	1735	168	186	20000	5800	P32x6	DP32x6	Her JXC	6-3¾x4¼	BL 224	U 4	No	Tim SW75	WF	T	7.4	45.8	7 x2¾x⅜	C
8	...17SBT251	2C	4	3250	188	224	28000	8550	P34x7	DP34x7	Her YXC	6-4⅜x4¾	BL 334	U 4	Op	Tim SBT251	SF	T	6.1	37.	8½x3x⅛	TL
9	...17SW251	4R	4	3475	188	224	28000	9000	P34x7	DP34x7	Her YXC	6-4⅜x4¾	BL 334	U 4	Op	Tim SW251	WF	T	6.2	38.1	8½x3x⅛	TL
10	.....12X4	4R	1½	2650	141	...	10000	4350	B6.50/20	DB6.50/20	Her JXC	6-3¾x4¼	BL	U 4	A 2	.....	SF	H	5.14	54.0	7 x2½x⅜	C
11	.....14X4	4R	2½	3950	141	...	14000	5900	B7.50/20	DB7.50/20	Her WXB	6-3¾x4½	BL	U 4	U 2	Wis	SF	H	5.40	50.0	7 x2½x⅜	C
12	.....16X4	4R	3	4850	156	...	16000	7500	B8.25/20	DB8.25/20	Her WXC2	6-4½x4½	BL	U 4	U 2	Wis	2F	H	6.06	89.0	8x3x¼	C
13	.....16X6	6	3	5650	170	...	20000	8000	B7.00/20	DB7.00/20	Her RXB	6-4½x5¼	BL	U 4	U 2	Wis	2F	H	4.66	....	8x3x¼	C
14	.....18X4	4R	3½	5850	160	...	21000	9000	B9.00/20	DB9.00/20	Her YXC	6-4⅜x4¾	BL	U 4	A 2	Wis	2F	H	7.83	110.	8½x3x⅜	C
15	.....18X6	6	3½	6650	170	...	28000	10500	B8.25/20	DB8.25/20	Her RXC	6-4⅜x5¼	BL	U 4	A 2	Wis	2F	H	7.83	110.	8½x3x⅜	C
16	.....20X4	4R	4½	7200	188	...	24000	10600	B9.75/20	DB9.75/20	Her HXB	6-5x6	BL	U 4	A 2	Wis	2F	H	8.00	128.	9x3x¼	C
17	.....20X6	6	4½	8950	188	...	36000	14000	B9.00/20	DB9.00/20	Her HXC	6-5½x6	BL	U 4	A 2	Wis	2F	R	8.95	84.0	9x3x¼	C
18	.....22X4	4R	5	10000	200	...	31000	14000	B10.50/20	DB10.50/20	Her HXC	6-5¼x6	BL	U 4	A 2	Wis	2F	H	9.11	86.0	8¼x3 x⅝	C
19	.....22X6	6	5	12100	200	...	40000	16000	B9.75/20	DB9.75/20	Her HXD	6-5½x6	BL	U 4	A 2	Wis	2F	R	9.11	86.0	8¼x3 x⅝	C
20	Kenworth...89SBT	7		2380	188	224	25500	7350	P32x6	DP32x6	Her JXC	6-3¾x4¼	BL 234	U 4	Op	Tim SBT151	SF	A	7.4	45.5	8x3x¼	TL
21	.....127SBT	8		3450	188	224	26000	8000	B8.25/20	DB8.25/20	Her WXC2	6-4½x4½	BL 334	U 4	Op	Tim SBT151	SF	A	7.4	45.5	8x3x¼	TL
22	.....146SBT	9		4250	188	224	33000	9000	B9.00/20	Bud K393	6-4¼x4¾	BL 334	U 4	Op	Tim SBT251	SF	A	7.8	48.	8x3x¼	TL
23	.....186SDT	2C	10	6450	205	235	38000	10500	B9.00/20	DB9.00/20	Her YXC2	6-4½x4¾	BL 1554	U 4	A 3	Tim Sdt310w	2F	H	7.33	104.	9x3x¼	T
24	.....241SDT	2C	10	6850	205	235	40500	11000	B9.00/20	DB9.00/20	Her RXB	6-4½x5¼	BL 714	U 4	A 3	Tim Sdt310w	2F	H	7.33	85.5	9x3x¼	C
25	.....346A	4R	10	8800	210	240	40500	13000	B9.75/20	DB9.75/20	HaS 160	6-4½x5½	BL 714	U 4	A 3	Tim SW310w	WF	H	7.25	84.5	8x3x⅜	C
26	.....346B	4R	10	8550	210	240	40500	13000	B9.75/20	DB9.75/20	Bud GF-6	6-4¾x6	BL 714	U 4	A 3	Tim SW310w	WF	H	7.25	98.4	8x3x⅜	C
27	.....346C	4R	10	9500	210	240	40500	14000	B9.75/20	DB9.75/20	HaS 175	6-5x6	BL 714	U 4	A 3	Tim SW310w	WF	H	7.25	98.4	8x3x⅜	C
28	.....386C	4R	10	10200	210	240	50100	14500	B9.75/20	DB9.75/20	HaS 175	6-5x6	BL 714	U 4	A 3	Tim SW410w	WF	H	7.60	103.	8x3x⅜	C
29	La Fran-R. .Q6	4R	9–12	11605	216	260	40000	14900	B10.50/20	DB10.50/20	Own 312B	12-4x5	BL 714	U 4	No	Tim SWD410	WF	..	Opt	Opt	12x3½x¼	L
30	Le Moon(9) 701	4R	5–6	4475	187	199	25500	8500	B8.25/20	DB8.25/20	Lyc AEC	8-3¾x4¾	Fu VUOG	U 5	No	Ti 63703-97H	WF	R	6.20	43.8	7x4x¼	B
31	801	4R	6–7	5100	187	199	32500	9720	B9.00/20	DB9.00/20	Lyc AEC	8-3¾x4¾	Fu VUOG	U 5	No	Ti 65703-97H	WF	H	6.75	47.7	7x4x¼	B
32	802	4R	6–7	5350	187	199	32500	9800	B9.00/20	DB9.00/20	Wau 6SRL	6-4½x5½	Fu VUOG	U 5	No	T65703-97tW	WF	H	6.75	47.1	7x4x¼	B
33	900	4R	7–8	6775	191	203	36000	12000	B9.75/20	DB9.75/20	Wau 6SRL	6-4½x5½	BL 607	A 7	No	TimSW310W	WF	H	9.25	86.9	9x4x¼	B
34	1000	4R	8–10	7950	196	208	40000	12600	B9.75/24	DB9.75/24	Wau 6AB	6-4½x5¾	BL 714	U 4	3	TimSW310W	WF	H	9.25	128.	9x4x¼	B
35	1200	4R	10–12	8500	196	208	40000	14000	B9.75/24	DB9.75/24	Wau 6RB	6-5x5¾	BL 714	U 4	3	TimSW410W	WF	H	9.25	128.	9x4x¼	B
36	.....1200D		10–12	9750	196	208	40000	14000	B9.75/24	DB9.75/24	Cum.Die.H6	6-4¼x6	BL 735	U 5	No	TimSW410W	WF	H	7.6	47.6	9x4x¼	B
37	Mack.....BX	4R	.....	8150	178	207	.....	12000	B8.25/22	DB8.25/22	Own BX	6-4¼x5½	Own BX	U 4	No	Own BX6	2F	A	6.53	46.0	9½x3x1¼	C
38	.....BQ	4R	.....	9350	224	248	.....	15000	B9.75/22	DB9.75/22	Own BQ	6-4¾x5¾	Own BQ	A 4	No	Own BX6	2F	R	6.54	41.9	10 x3 x¼	C
39	.....AC	4R	8–15	8500	217	257	.....	14550	P40x8	DP40x8	Own BQ	6-4¾x5¾	Own AC	J 4	No	Own AC	CD	R	9.26	59.4	8x3x⅜	C
40	.....AK	4R	8–15	9000	217	257	.....	15900	B9.75/22	DB9.75/22	Own BQ	6-4¾x5¾	Own AC	A 4	No	Own AK6	2F	A	7.46	47.8	8½x3x⅜	C
41	.....AP	4R	8–15	11500	217	257	.....	14850	P40x8	DP40x8	Own AP	6-5x6	Own AC	J 4	No	Own AP	CD	R	9.26	59.4	8x3x⅜	C
42	.....AP	4R	8–15	11000	217	257	.....	16400	B9.75/22	DB9.75/22	Own AP	6-5x6	Own AC	A 4	No	Own AK6	2F	A	7.46	47.8	8½x3x⅜	C
43	Mar.-Her.TH310A-6		10	10000	193	229	37070	14070	B9.75/22	DB9.75/22	Her RXC	6x4½x5¼	Fu 5A530	U 5	A 2	Own-Wis	2F	R	9.11	163.	8½x3x⅜	P
44	.....TH315	6	12	12500	198	234	42420	15420	B9.75/22	DB9.75/22	Her HXB	6-5x6	BL 724	U 4	A 3	Own-Wis	2F	R	9.11	163.	8½x3x⅜	P
45	.....TH320	6	15	15000	225	255	51900	18900	B10.50/24	DB10.50/24	Her HXC	6-5½x6	BL 724	U 4	A 3	Own-Wis	2F	R	9.11	188.	10x3x⅜	P
46	.....TH330	6	20	17500	225	255	64100	20100	B12.75/20	DB12.75/20	Her-HXD	6-5½x6	BL 734	U 4	A 3	Own-Wis	2F	R	9.11	167.	10x3x⅜	P
47	Moreland.RA15			1550	153	Op	15000	5300	B6.50/20	DB6.50/20	Her JXC	6-3¾x4¼	BL 224	U 4	No	Tim SBT75	SF	R	5.66	35.0	7 x2⅜x¼	T
48	.....RA20			1981	149	Op	20000	6100	P32x6	DP32x6	Her JXC	6-3¾x4¼	BL 224	U 4	No	Tim SBT151	SF	R	6.17	38.2	7 x2⅜x¼	T
49	.....BD21M			3534	184	Op	21000	8300	B7.50/20	DB7.50/20	Her WXC	6-4x4¼	BL 334	U 4	...	Tim 64800	WF	R	6.40	39.6	9 x3½x¼	T
50	.....ED25M			4067	184	Op	25500	8900	B8.25/20	DB8.25/20	Her WXC3	6-4¼x4	BL 334	U 4	...	Tim 65000	W	R	7.50	46.0	9 x3½x¼	T
51	.....HD34M			5869	220	Op	34000	11000	B9.00/20	DB9.00/20	Her RXB	6-4½x5¼	BL 524	U 4	...	Tim 65720	W	R	8.50	62.0	9½x3 x¼	T
52	.....TD34			7607	221	...	34000	13250	B9.75/20	DB9.75/20	Con 16H	6-4¾x5¾	BL 724	U 4	...	Tim 68720W	W	R	8.75	62.0	11x3 x¼	L
53	SterlingFBT152	2R	8½	4580	174	204	30400	9500	B9.00/20	DB9.00/20	Wau 6-110	6-4x4¾	Own UC7	U 5	No	Own	BF	R	7.8	55.5	10x3½x¼	L
54	.....FDT152	2R	8½	4705	174	204	30400	9700	B9.00/20	DB9.00/20	Wau 6-110	6-4x4¾	Own UC7	U 5	No	Own	2F	R	9.0	52.7	10x3½x¼	L
55	.....FDS180	4R	8–10	8925	158	Op	36000	12850	P40x8	DP40x8	Wau AB	6-4½x5¾	Own UC8	U 4	A 3	Tim 310	2F	R	9.1	113.	15x3¼x¼	L
56	.....FDS200	4R	10–12	9510	159	Op	40000	13550	P40x8	DP40x8	Wau RB	6-5x5¾	Own UC8	U 4	A 3	Tim 410	2F	R	9.1	113.	15x3¼x¼	L
57	*.....FCS210	4R	15–18	10825	Op	Op	42000	14750	P40x8	DP40x8	Wau RB	6-5x5¾	Own UC8	U 4	A 3	Own	CD	R	9.5	59.6	15x3¼x¼	L
58	.....FDT200	2R	12–12½	7670	178	208	40000	12050	P40x8	DP40x8	Wau 6-125	6-4¾x5¼	Own UC	U 4	Op	Own	2F	R	8.85	58.8	12x3¼x¼	L
59	.....FDT250	2R	16–16½	8855	186	216	50000	13550	P42x9	DP42x9	Wau RB	6-5x5¾	Own UC8	U 4	Op	Own	2F	R	8.85	55.5	15x3¼x¼	L
60	.....FCT180	2R	10–10½	7265	178	208	36000	11200	P36x8	DP36x8	Wau SRL	6-4¾x5¼	Own UC	U 4	Op	Own	CD	R	8.2	54.5	12x3¼x¼	L
61	.....FCT200	2R	12–12½	7685	178	208	40000	11800	P40x8	DP40x8	Wau 6-125	6-4¾x5¼	Own UC	U 4	Op	Own	CD	R	9.3	61.8	12x3¼x¼	L
62	Wht.630SW200	4R	5–6	6245	193	205	.....	10000	B8.25/20	DB8.25/20	Own 3AD	6-4¼x5¼	Own 4B	U 4	No	Tim SW200H	WF	R	6.75	44.2	8¼x3 x¼	C
63	...642SW320	4R	7–9	8025	198	210	.....	12670	B9.00/20	DB9.00/20	Own 1AB	6-4¾x5¾	Own 7B	U 4	No	TimSW310W	WF	R	8.5	55.6	8¼x3 x¼	C
64	...643SW420	4R	9–11	8550	198	215	.....	14400	P40x8	DP40x8	Own 1AB	6-4½x5¾	Own 7B	U 4	No	TimSW410W	WF	R	10.2	69.1	8½x3 x½	C

KEY TO ABBREVIATIONS AND REFERENCE MARKS

GENERAL

Chassis Price—Chassis price quoted applies to the standard wheelbase and specifications listed. All prices are F.O.B. factory.

***—List price not yet established. Ready next issue.

Tonnage Rating—Where a spread of ratings is given the maximum ratings are for ideal operating conditions and the minimum for extremely difficult conditions; the ranges between are for varying operating conditions.

Gross Vehicle Weight—Is chassis weight, plus body an i cab, plus payload. Gross vehicle weight given for a model is based on maximum recommended tire size and not on tires listed as standard equipment.

Chassis Weight Stripped—Includes gas, oil and water and all things included in chassis price. Does not include the weight of cab.

Maximum Brake H. P. at Given R.P.M.—Is actual dynamometer reading without accessories.

Tractors—Unless given the designation N (meaning not available as tractor), all standard models may be assumed to be available as tract rs.

(N) Not available as tractor.

(T) This designation accompanying a model number indicates vehicle is specifically designed for tractor use only.

(3) Corbitt—Larger engines and corresponding auxiliary units provided on all models.

(4) Day Elder—Model 75—1½ ton—same specifications except price—$945, and larger tire size—B6.00/20 front and DB6.00/20 rear.

(5) Dodge—F-61 available as special tractor truck with 146-inch wheelbase with model designation of F-60, at $2645. G-81 available as special tractor truck with 146-inch wheelbase with model designation of G-80, at $5250. Model G-82 available as special tractor truck, with 146 in. wheelbase, with model designation of G-80 at $5250 and with 170 in. wheelbase with model designation of G-81 at $5285.

(5a) Dodge—Model H20, ¾-1 ton, gross vehicle weight 6,000 lb., price $502, has same specifications as H30 except tires which are 7.50/17 and lighter rear springs.

(6) General Motors—Models T-18 to T-61 inclusive are also available for export only as coach chassis. Double reduction axles optional in Models T-43 T-51, T-61, T-83 and T-95 at extra cost. Trailing type axles available on Model T-95 at price deduction. Optional size engines available on Models T-85, T-85H, T-95, T-110 and T-130 at varying cost

Gramm—Larger engines and corresponding auxiliary units provided on all models at extra cost when type of service demands. Wheelbases and body mounting dimensions may change to suit special requirements. Double reduction axles available on all models except AX and BX.

Gross weight indicated for each model in the table is the straight rating.

Series CXH is supplied with Hercules JXB engine in Model CXHB and Hercules JXC in Model CXHC.

(7) Grass Premier—Eight cylinder engines available on following models: 835 with Lyc. GU at $1515 list; 865 with Lyc. HF at $4230; 875 with Lyc. AE at $5400.

(8a) International Harvester—A-1, ¾ ton, same as A-2 except less spring leaves and smaller tires.

(8b) All Torque and Brake Horsepower values listed are based on engine outputs with all Standard Equipment Accessories running and are the same values obtaining with the truck on the road in actual operation.

(9) Le Moon—Model 600 available with Lyc. AEC at same cost. Models 701 and 801 available with Waukesha 6SRL at same cost.

(10) Sterling—Rocker arm used in place of springs

(*) Sterling—These models also available equipped with Cummins Model H Diesel engine.

†Reo—Models 1C and 1D are the longer wheelbase editions of Models 1A and 1B. The frame dimension of both is 7x2¾x¼. They are furnished at extra cost.

††Reo—2J same as 2H except 166 in; wheelbase and price of $1695

††Reo—3J same as 3H except wheelbase of 170 in. and price of $2085; 3K same as 3H except 185 in. wheelbase and price of $2155.

(11) Studebaker—S-2 in 141 in. and 165 in. wheelbases has 6⅜ in. frame depth.

(12) White—Each model shown is furnished with different specifications for different tonnage ratings.

(13) Marmon-Herrington—Available with Hercules Diesel engine at extra charge of $1950

MAKES—ALL

AB—American Bosch.
AL—Auto Lite.
B—Bendix.
BB—Borg & Beck.
BE—Bendix front, Eaton rear.
BL—Brown-Lipe.
BO—Bendix front, Own rear.
Bf—Bethlehem.
Blo—Blood.
Bu or Bud—Buda.
BW—Borg Warner
C or Col—Columbia.
CB—Columbia front, Bendix rear.
Car—Carter.
Ch—Chicago.
CI—Ignition by compression.
Cl or Cla—Clark.
Cle—Cleveland.
Co—Covert (transmission).
Co—Continental (governor).
Con—Continental.
Cot—Cotta Gear.
Cum—Cummins-Diesel
Det—Detroit Lubricator.
DG—Detroit Gear and Machine.
DR—Delco Remy.
Eat—Eaton.
Ei—Eisemann.
En—Governor built in engine
EV—Electro-Vac (gov.) Pierce
Fe—Fedders.
Fu—Fuller.
Ge—Gemmer.
GO—G. & O.
Ha—Handy (governor).
Ha—Hannum (steering gear).
HaS—American Car & Fdry.
Her—Hercules.
Hr—Harrison
HS—Merchant & Evans (clutch).
HS—American Car & Fdry. (governor).
Jac—Saginaw.
Jo—Jones.
KP—Handy.
L—Lockheed.
LN—Leece Neville.
Lo—Long.
LO—Lockheed front, Own rear
Lyc—Lycoming.
Mc—McCord.
Ma—Marvel.
ME—Merchant & Evans.
MM—Mechanics Mach.
Mo—Modine (radiator).
Mo—Monarch (governor).
My—Mallory.
NE—North East.
No—Not supplied.
ns—No Standard.
O or Oo—Own.
Op or Opt—Optional.
Pe—Pierce (governor).
Pe—Perfex (radiator).
Pet—Peters.
PeS—Peters and Spicer.
PS—Peters & Snead.
RB—Robt. Bosch.
Ro—Rockford.
Ros—Ross.
S—Steeldraulic.
Sal—Salisbury.
Sc—Scintilla.
Sch—Wheeler-Schebler.
She—Sheldon.
Shu—Shuler.
SpB—Spicer and Blood
Spi—Spicer.
SpP—Spicer and Pick.
Ste—Detroit Lubro. (carburetor).
Ste or St—Sterling.
Str—Stromberg.
Ti—Tillotson.
T or Tim—Timken.
TO—Timken front, Own rear.
TWH—Timken Wisconsin Herrington
WG—Warner Gear.
Wa or War—Warner Corp. (steering gear)
Wa—Waukesha (governor).
Wau—Waukesha.
W or Wis—Wisconsin.
Wo—Wohlrab.
Ws—Westinghouse.
Yo—Young.
Zen—Zenith

Line Number	ENGINE DETAILS: Piston Displacement	Compression Ratio	Torque lb. ft.	N.A.C.C. Rated H.P.	Max. Brake H.P. at R.P.M. Given	Valve Arrangement	Camshaft Drive	Piston Material	MAIN BEARINGS: Number and Diameter	MAIN BEARINGS: Length	Oiling System Type	Governor Make	FUEL SYST.: Carburetors Make	FUEL SYST.: Fuel Feed	ELECTRICAL: Ignition System Make	ELECTRICAL: Generator, Starter Make	Clutch Type and Make	Radiator Make	Universals Make	FRONT AXLE: Make and Model	Steering Gear Make	BRAKES: SERVICE: Make, Location, Operation	SERVICE: Lining Area	SERVICE: Drum Material	Hand Type, Location	BODY MOUNTING DATA: Cab to Rear of Frame	Cab to Rear Axle	Width of Frame	SPRINGS: Front	SPRINGS: Rear	Auxiliary Type
1	677	4.4	460	60.0	125–2000	L	G	C	4–3½	11½	PC	Wa	Zen	M	NE	NE	D.BL	Pe	Blo	Wis 131F	Ros	B61MV	504	G	T4	220	145	34	48x3½	40x5	N
2	517	4.5	330	51.3	110–2400	L	G	C	7–3	13⅞	PC	Wa	Zen	M	NE	NE	D.BL	Pe	Blo	Own M	Ros	B6IA	864	G	4M	180	137	36	42¾ x2½	44x3	N
3	400	4.6	296	40.9	110–2300	H	G	A	4–2.7	8¼	FP	Ha	Str	M	DR	DR	dp.Ow	Lo	Cle	Own	Jac	B4rIA	557	a	TX	161	100¼	34½	40x3	50x4	½
4	525	4.5	380	48.6	128–2100	H	C	A	7–2¾	14⅛	FP	Ha	Str	M	DR	DR	dp.Ow	Lo	Spi	Own	Jac	B6IA	817	a	TX	161	100	34½	50x3½	45x4	N
5	616	4.5	450	57.0	149–3100	H	C	A	7–2¾	14⅛	FP	Ha	Str	M	DR	DR	dp.Ow	Lo	Spi	Own	Jac	B6IA	965	a	TX	161	100	34½	50x3½	45x4	N
6	282	5.3	186	33.7	73–2800	L	G	A	7–2½	10⅛	PC	No	Str	M	AL	AL	P.BL	Yo	Spi	Tim 31020	Ros	L6IHV	559	G	TX	140	83	34	37x2¼	52x4	N
7	282	5.3	186	33.7	73–2800	L	G	A	7–2½	10⅛	PC	No	Str	M	AL	AL	P.BL	Yo	Spi	Tim 31020	Ros	L6IHV	459	G	TX	140	83	34	37x2¼	44x3	N
8	428	4.4	283	45.9	94–2200	L	G	A	7–3	14	PC	Ha	Str	M	AL	AL	P.BL	Yo	Spi	Shu 5582B	Ros	L6IHV	625	G	CD	168	101	34½	40x2½	52x4	N
9	428	4.4	283	45.9	94–2200	L	G	A	7–3	14	PC	Ha	Str	M	AL	AL	P.BL	Yo	Spi	Shu 5582B	Ros	L6 IHV	625	G	CD	168	101	34½	40x2½	52x4	N
10	282	5.4	176	33.8	73–2800	L	G	A	7–2⅝	10⅛	PC	Opt	Str	M	AL	AL	P.BL	Yo	Spi	Wis	Ros	L4IH	. . .	G	CD	92	56	34	37x2¼	54x2½	N
11	398	4.7	190	33.7	70–2600	L	G	A	7–2⅝	13¼	PC	Ha	Str	M	AL	AL	P.BL	Yo	Spi	Wis	Ros	L4IH	. . .	G	CD	92	56	34	37x2¼	54x2½	N
12	361	4.7	235	38.4	82–2400	L	G	A	7–2⅝	13¼	PC	Ha	Str	M	AL	AL	P.BL	Yo	Spi	Wis	Ros	L4IHV	. . .	G	CD	108	73¼	34	39½ x2½	54x3	N
13	501	5.0	330	48.6	110–2200	L	G	A	7–3	12½	PC	Ha	Str	M	AL	AL	P.BL	Yo	Spi	Wis	Ros	L6IHV	. . .	G	CD	142	87¼	34	39½ x2½	54x3	N
14	428	4.5	283	45.9	94–2200	L	G	A	7–3	14	PC	Ha	Str	M	AL	AL	P.BL	Yo	Spi	Wis	Ros	L4IHV	. . .	G	CD	120	72	34	44x3	50x4	N
15	529	4.9	350	51.3	115–2200	L	G	A	7–3	12½	PC	Ha	Str	M	AL	AL	P.BL	Yo	Spi	Wis	Ros	L6IHV	. . .	G	CD	142	87¼	34	44x3	52x4	N
16	707	4.5	455	60.	148–2000	L	G	A	7–3½	17½	PC	Ha	Str	M	AL	AL	P.BL	Yo	Spi	Wis	Ros	L4IHV	. . .	G	CD	144	88	34	44x3	50x4	N
17	779	4.5	505	66.2	163–2000	L	G	A	7–3½	17½	PC	Ha	Str	M	AL	AL	P.BL	Yo	Spi	Wis	Ros	Ws6IA	. . .	G	CD	144	88	34	44x3	42x4	N
18	779	4.5	505	66.2	163–2000	L	G	A	7–3½	17½	PC	Ha	Str	M	AL	AL	P.BL	Yo	Spi	Wis	Ros	Ws4IA	. . .	G	CD	168	100	34	44x3	50x4	N
19	855	4.5	555	72.8	180–2000	L	G	A	7–3½	17½	PC	Ha	Str	M	AL	AL	P.BL	Yo	Spi	Wis	Ros	Wa6IA	. . .	G	CD	168	100	34	44x3	42x4	N
20	282	4.7	176	33.7	73–2700	L	G	A	7–2½	10⅛	FP	No	Zen	M	DR	DR	P.BL	Pe	Spi	Tim 31000H	Ros	L6IHV	536	a	TX	168	102	31½	38x2¼	52x4	N
21	361	4.4	235	40.8	83–2400	L	G	A	7–2⅝	13¼	FP	No	Zen	M	DR	DR	P.BL	Pe	Spi	Tim 33000H	Ros	L6IHV	536	a	FD	168	102	31½	38x2½	52x4	N
22	393	4.9	260	42.1	103–2600	L	G	C	7–3	11½	FP	No	Zen	M	DR	DR	P.BL	Pe	Spi	Tim 33000H	Ros	L6IHV	654	a	FD	168	102	31½	38x2½	52x4	N
23	453	4.7	300	48.6	98–2200	L	G	A	7–3	14	CC	Ha	Zen	M	DR	DR	P.BL	Pe	Spi	Tim 35000N	Ros	Ws4rA	815	a	FD	192	120	33¾	42x3	56x4	½
24	501	4.9	330	s.6	110–2200	L	G	A	7–3	12½	CC	Ha	Zen	M	DR	DR	P.BL	Pe	Spi	Tim 36020N	Ros	Ws4rA	815	a	FD	192	120	33¾	42x3	56x4	½
25	438	4.4	322	.3.3	125–2400	Il	C	A	4–2¾	10⅜	FP	No	Zen	M	DR	DR	P.BL	Pe	Spi	Tim 36020N	Ros	Ws4rA	815	a	FD	192	120	33¾	42x3	56x4	½
26	638	4.3	410	54.1	126–1850	L	G	C	4–3	10¼	CC	Bu	Zen	M	DR	DR	P.BL	Pe	Spi	Tim 36020N	Ros	Ws4rA	815	a	FD	192	120	33¾	42x3	56x4	½
27	707	4.4	506	60.0	170–2000	H	C	A	7–3¼	11¼	FP	HS	Zen	M	DR	DR	P.BL	Pe	Spi	Tim 36020N	Ros	Ws4rA	815	a	FD	192	120	33¾	42x3	56x4	½
28	707	4.4	506	60.0	170–2000	H	C	A	7–3¼	11¼	FP	HS	Zen	M	DR	DR	P.BL	Pe	Spi	Tim 36020N	Ros	Ws4rA	815	a	FD	192	120	33¾	42x3	56x4	½
29	754	5.1	510	76.7	240–2900	H	C	C	4–3½	10	PC	No	Zen	M	DR	DR	dp.Lo	Ow	Blo	Tim 27450tw	Ros	Wa6IA	782	Da	CD	111⅝	216	34	44x3	None	N
30	420	5.2	300	44.4	130–2800	L	G	C	5–2¾	12¾	FP	Ha	Str	M	DR	DR	D.Fu	Ch	Spi	Tim 35000H	Ros	L6IHV	525	a	CD	162	108	34	39x2½	39x2½	N
31	420	5.2	300	44.4	130–2800	L	G	C	5–2¾	12¾	FP	Ha	Str	M	DR	DR	D.Fu	Ch	Spi	Tim 35000H	Ros	L6IHV	633	a	CD	162	108	34	39x2½	46x3½	N
32	462	4.5	300	45.9	98–2000	L	G	A	7–3	13½	PC	Wa	Str	M	AL	DR	D.Fu	Ch	Spi	Tim 35000tw	Ros	Wa6IA	711	a	CD	162	108	34	39x2½	46x3½	N
33	462	4.5	300	45.9	98–2000	L	G	A	7–3	13½	PC	Wa	Str	M	AL	DR	D.BL	Ch	Spi	Tim 26045tw	Ros	Wa6IA	966	a	CD	162	108	34	48x3½	53x4	N
34	549	4.5	332	48.6	100–2000	L	G	A	4–3½	11½	PC	Wa	Str	M	AL	LN	D.BL	Ch	Spi	Tim 26045tw	Ros	Wa6IA	966	a	CD	162	108	34	48x3½	53x4	N
35	677	4.6	460	60.0	127–2000	L	G	A	4–3½	11¼	PC	Wa	Str	M	AL	LN	D.BL	Ch	Spi	Tim 27045tw	Ros	Wa4IA	792	a	CD	162	108	34	48x3½	53x4	N
36	672	4.4	420	57.0	125–1800	H	G	C	7–3¼	16½	FP	Ow	No	P	No	LN	B.dpL	Ch	Spi	Tim 27045tw	Ros	Wa6IA	966	a	CD	162	108	34	48x3½	53x4	N
37	468	4.7	292	13.4	104–2300	L	G	C	7–3	13¼	FP	Ha	Str	M	NE	NE	P. Own	Ow	Spi	Own BX	Ros	O6IA	1118	a	FD	192	109	33¼	54¼ x3	48x3½	N
38	611	5.0	398	54.2	128–2200	L	G	C	4–3½	11¼	PS	Ow	Str	M	RB	NE	P.Ow	Ow	Cle	Own BQ	Ros	O6IA	902	a	FD	192	111	33¼	50x3½	48x3½	N
39	611	5.0	398	54.2	128–2200	L	G	C	4–3½	11¼	PS	Ow	Str	M	RB	LN	P. Ow	Ow	Spi	Own AC	Ros	O6IA	1052	a	FD	180	109	37½	48x3½	52x4	½
40	611	5.0	398	54.2	128–2200	L	G	C	4–3½	11¼	PS	Ow	Str	M	RB	LN	P. Ow	Ow	Cle	Own AK	Ros	O6IA	1044	a	FD	180	109	37	48x3½	52x4	½
41	706	4.8	427	60.0	138–1900	L	G	S	4–3¼	11¼	PS	Ow	Str	G	RB	LN	P. Ow	Ow	Spi	Own AK	Ros	O6IA	1052	a	FD	180	109	37	48x3½	52x4	½
42	706	4.8	427	60.0	138–1900	L	G	S	4–3¼	11¼	PS	Ow	Str	G	RB	LN	P. Ow	Ow	Cle	Own AK	Ros	O6IA	1044	a	FD	180	109	37	46¼ x3½	52x4	½
43	529	4.9	350	51.3	114–2200	L	G	A	7–3	14	PC	Ha	Zen	M	DR	DR	D.Fu	Yo	Blo	Own-Wis	Ros	W84/6IA	1836	a	FD	152	102	34	44x3	46x4	½
44	707	4.5	460	60.0	150–2000	L	G	A	7–3½	17	PC	Ha	Zen	M	DR	DR	dp.BL	Yo	Blo	Own-Wis	Ros	W84/6IA	1836	a	FD	174	102	34	44x3	46x4	½
45	779	4.5	508	66.2	164–2000	L	G	A	7–3½	17	PC	Ha	Zen	M	DR	DR	dp.BL	Yo	Blo	Own-Wis	Ros	W84/6IA	1948	a	2FD	223	127	34	52x4	46x4	½
46	855	4.5	550	72.8	180–2000	L	G	A	7–3½	17	PC	Ha	Zen	M	DR	DR	dp.BL	Yo	Blo	Own-Wis	Ros	W84/6IA	1948	a	2FD	223	127	34	52x4	46x4	½
47	282	5.0	176	33.8	73–2800	L	G	C	7–2½	10⅛	PC	No	Zen	M	AL	AL	P.BL	Lo	Cle	Tim 30000H	Ros	L6IH	412	a	TD	168	71	34	40x2½	44x3	N
48	282	5.0	176	33.8	73–2800	L	G	C	7–2½	10⅛	PC	No	Zen	M	AL	AL	P.BL	Lo	Cle	Tim 31000H	Ros	L6IH	570	a	TD	168	67	34	40x2½	52x4	N
49	339	4.7	212	38.4	76–2400	L	G	C	7–2½	13¼	PC	No	Zen	M	AL	AL	P.BL	Lo	Cle	Tim 33020H	Ros	L6IH	578	a	TD	192	101	34	40x2½	42x2½	½
50	383	4.4	262	43.3	92–2400	L	G	C	7–2⅝	13¼	PC	No	Zen	M	AL	AL	P.BL	Lo	Cle	Tim 33020H	Ros	L6IH	661	a	TD	192	101	34	41½ x2½	43½ x3½	½
51	501	4.9	330	48.6	110–2200	L	G	C	7–3	12½	PC	No	Zen	M	AL	AL	P.BL	Lo	Cle	Tim26450TW	Ros	W6IA	898	a	TD	216	113	34	42x3	43½ x4	½
52	611	4.5	384	54.1	127–2300	L	G	A	7–3	13⅛	PC	No	Zen	M	AL	AL	dp.BL	Lo	Cle	Tim 27050W	Ros	W6IA	960	a	TD	Opt	Opt	38	44x3	48x3½	½
53	358	5.0	254	38.5	110–2800	F	G	A	7–2⅜	12½	CC	Ha	Zen	M	DR	DR	D.Ow	Mo	Spi	Tim 35000N	Ros	L4IHV	596	a	CX	192	91	34	42x2½	57x4	N
54	358	5.0	254	38.5	110–2800	F	G	A	7–2⅜	12½	CC	Ha	Zen	M	DR	DR	D.Ow	Mo	Spi	Tim 35000N	Ros	L4IHV	596	a	CX	192	91	34	42x2½	57x4	N
55	549	4.5	330	48.6	99–2000	L	G	C	4–3½	11¼	CC	Ha	Zen	M	DR	DR	D.Ow	Mo	Spi	Tim 26450N	Ros	Ws4IA	576	a	CX	Opt	88	34	48x3	58x4	N
56	677	4.4	440	60.0	125–2000	L	G	C	4–3½	11¼	CC	Ha	Zen	M	DR	DR	D.Ow	Mo	Spi	Tim 27450N	Ros	Ws4IA	792	a	CX	Opt	89	34	48x3	58x4	N
57	677	4.4	440	60.0	125–2000	L	G	A	4–3½	11¼	CC	Ha	Zen	M	DR	DR	D.Ow	Mo	Spi	Tim 27450N	Ros	Ws4IA	792	s	CD	Opt	Opt	34	48x3	60x3½	N
58	462	5.5	324	45.9	125–2400	F	G	A	7–3	13¼	CC	Ha	Zen	M	DR	DR	D.Ow	No	Spi	Tim 26450N	Ros	O4IA	792	a	CX	192	94	34	48x3	(10)	N
59	677	4.4	440	60.0	125–2000	L	G	A	4–3½	11¼	CC	Ha	Zen	M	DR	DR	D.Ow	Mo	Spi	Tim 27450N	Ros	O4IA	792	a	CX	192	93	34	48x3	(10)	N
60	462	4.5	300	45.9	102–2400	L	G	C	7–3	13¼	CC	Ha	Zen	M	DR	DR	D.Ow	Mo	Spi	Tim 26450N	Ros	O4IA	1152	S	JX	192	94	34	48x3	(10)	N
61	462	5.5	324	45.9	125–2400	F	G	A	7–3	13¼	CC	Ha	Zen	M	DR	DR	D.Ow	Mo	Spi	Tim 26450N	Ros	O4IA	1152	S	JX	192	94	34	48x3	(10)	N
62	396	4.9	250	38.4	100–2100	H	C	S	7–2¾	13½	FP	Ow	Zen	M	DR	DR	P. Ow	Ow	Spi	Own 6D	Ros	Lr4IHV	514	a	CI	194⅛	109⅛	34⅛	42x3	51¼x4	N
63	519	4.0	333	45.9	118–2100	H	C	S	7–3	15½	FP	Ow	Zen	E	LN	LN	dp.Ow	Ow	Spi	Own 12D	Ros	Wa6IA	833	a	CI	194¾	109¾	34⅛	42x3	42x4	N
64	519	4.0	333	45.9	118–2100	H	C	S	7–3	15½	FP	Ow	Zen	E	LN	LN	dp.Ow	Ow	Spi	Own 12D	Ros	Wa6IA	833	a	CI	194¾	109¾	34⅛	42x3	42x4	N

KEY TO ABBREVIATIONS AND REFERENCE MARKS

BRAKES—SERVICE

Location

2—Two Wheels, rear only.
2/4—Two-wheel brakes effective on all four wheels through driveshaft.
4/6—Brakes on four rear wheels effective on all wheels through driveshaft.
T/4—Brake on transmission effective on all four wheels through driveshaft.
4—Four Wheels, front and rear
4r—Four Wheels, rear only.
6—Six Wheels, front and rear.
J—Jackshaft.
P—Propeller shaft.

Type

I—Internal.
X—External.

Operation

A—Air.
D—Hydraulic and mechanical.
H—Hydraulic.
M—Mechanical.
V—Vacuum.

BRAKES—HAND

Location

C—Center of double propeller shaft
2—Rear wheels.
4—Four wheels.
R—Worm or bevel gearshaft.
T—Transmission.
F—Driveshaft.

Type

D—Tru-Stop disk.
I—Internal.
X—External.

BRAKE DRUMS

Material

a—Cast alloy iron.
A—American Car Fdry.
C—Centrifuse
D—Dayton.
E—Ermalite.
G—Gunite.
H—Hunt Spiller.
c—Cast iron.
p—Pressed steel.
P—Pressed steel.
s—Cast steel.
(Where a combination of any of the above is used, the first reference mark applies to the front and the second to the rear drums.)

CLUTCH

Type

D—Multiple disk.
dp—Double plate.
O—Plate in oil.
P—Single plate

ENGINE

Valve Arrangement

F—Inlet valve in head; exhaust valve at side.
H—In head.
L—"L" head.

Camshaft Drive

C—Chain.
G—Gear.

Piston Material

A—Aluminum alloy.
B—Semi-steel.
C—Cast iron.
N—Nickel iron.
S—Aluminum alloy with strut.

Main Bearings

r—Rear main bearing.
B—Ball bearing.

Oiling System

CC—Pressure to main, connecting rod and camshaft bearings.
FP—Pressure to main, connecting rod, camshaft bearings and piston pins.
PC—Pressure to mains and connecting rod bearings.
PG—Pump, gravity and splash.
PS—Pressure with splash.
SP—Circulating with splash.

FRAME

Type

I—"I" Beam.
C—Channel.
T—Channel tapered front and r r.
L—Channel reinforced with liner.
B—Channel reinforced with both liner and fishplate.
P—Channel reinforced with plate.
TL—Channel tapered front and rear reinforced with liner.
D—Drop Center
Tf—Tapered front
X—x-Braced

FUEL SYSTEM

Fuel Feed

E—Electric pump.
G—Gravity.
M—Mechanical pump.
P—Pressure.
V—Vacuum.

REAR AXLE

Final Drive and Type

B—Bevel.
C—Chain.
D—Dead.
F—Full-floating.
H—Hypoid.
I—Internal Gear.
2—Double Reduction.
S—Spiral bevel.
W—Worm.
w/2—Worm or Double Reduction Optional.
½—Semi-floating.
¾—Three-quarter floating.

Drive and Torque

A—Radius Rods and Torque Arm.
H—Hotchkiss. (springs)
R—Radius Rods
T—Torque Arm.
U—Torque Tube.

SPRINGS

Auxiliary Type

½—Semi-elliptic above or below main springs.
¼—Quarter elliptic.
C—Coil spring.
N—No.
O—Optional.

TIRES

B—Balloon.
DB—Dual Balloons.
P—High Pressure Pneumatics.
DP—Dual High Pressure Pneumatics
S—Solids.
DS—Dual Solids.
*—Pneumatics at extra cost.

TRANSMISSION

Location

A—Amidships.
J—Unit with jackshaft.
U—Unit with engine.

Auxiliary Location

No—Not furnished.
Op—Optional at extra cost.
A—Amidships.
R—Rear of amidships main transmission.
U—Unit with engine.

WHEELS DRIVEN

2C—Center pair of rear wheels
2R—Rear pair of rear wheels.
4F—Front and center pair of rear wheels.
4R—Four rear wheels.
6—Six wheels

What's the Economic Life of a Truck?

(Continued from page 20)

thought that trucks should only come out when maintenance-repair cost starts to rise, I believe that the rise should be sufficient to return investment of an appreciable amount which in my experience never occurs where maintenance has been properly carried on within the fleet.

By C. L. Jones

Automobile Division
General Foods Sales Co., Inc.

MR. COLLINS' article is interesting and seems to be a simpler proposition than most such which have been published. It seems, however, that our present generation is being brought up on charts and graphs based largely on engineering theories which do not always work out in practice, the black person in the woodpile usually being the driver of the vehicle. Mr. Collins' argument is sound in principle and, in effect, we use the same methods but using our individual records in actual figures rather than plotting curves and looking for intersecting points.

For instance, the average mileage on cars in our own fleet is between forty-seven and forty-eight thousand. This mileage however may be accumulated over a period of from two to four years, yet we have instances of where one car has covered about thirty-eight thousand miles in the first year and, due to the handling of the car, might better be traded than overhauled.

Speaking generally, the wide variation in human nature and in the geographical and topographical conditions of the country makes it almost impossible to apply any one rule to decide when a car should be traded.

We, of course, are not particularly interested at the moment in a truck problem such as Macy's have. The heavy initial investment in a good sized truck calls for more careful consideration as to when it should be disposed of. Some types of trucks have engines made in such a manner that they may be readily reconditioned which makes it economical to continue the use of the truck far beyond the average mileage, if the body and chassis are in good condition.

There are many people that are striving towards the same end but with the wide variation in the types of trucks built, the personal preferences and prejudices of truck users and the theories of school-trained engineers, makes the millennium seem a long way ahead.

By Austin M. Wolf

Automotive Consulting Engineer

I BELIEVE that Mr. Collins has made a very valuable contribution on the subject of when to replace a truck. His graphical method is extremely interesting and will I believe presage a new point of approach. No one can deny the correctness of his deductions provided the premises are correct.

I do not believe that the maintenance component is a straight line. It will assume the shape of a slow curve which will show an increasing height with the number of miles traveled. The straight line of minimum angle is an ideal for designers to shoot at, but most of us have had the experience of greater increases with the higher mileages.

The shape of the curve will vary among different trucks and the characteristic curve will reflect on the design and materials incorporated in the original vehicle. A number of trucks may start off with practically the same initial curve but greatly vary with the higher mileages. The question is how to interpret these variations and at which point to draw a tangent that will intersect the initial investment component at the proper point. I believe that Mr. Collins has started us off on this most interesting method of graphical determination.

The straightness and low angle of the maintenance component curve will reflect to a large extent the efficacy of such preventive measures as inserted exhaust valve seats, oil filters and temperature regulators, air cleaners, etc. I personally believe that the straight line used by Mr. Collins but of lesser angle is the theoretical ideal which can never be fully obtained. I am of the opinion that a mathematical study can be made of the actual curves in relation to the vehicle design, materials used and maintenance efficiency. There are a number of variables in all these constituents, reflected by variations from a straight line and I feel that a great deal of study would be required before we are ready to decide the favorable vehicle life on a purely graphical basis.

These Men Want Jobs!

●

Boysen, W. R. (40) 757 Covington Drive, Detroit, Mich., married. Has high school and two year's college education. Started in 1920 with Hyatt Roller Bearing Co., Detroit office. Since 1923 has been a field representative—1923 to 1928 with Hyatt, and 1929 to present with Diamond Chain & Mfg. Co., Indianapolis. Seeks connection in sales capacity in automotive industry on straight salary, salary and commission, or straight commission basis. Has wide acquaintance in engineering departments of car and many parts manufacturers. Detailed information and references upon request.

Dickey, T. M. (26) 5082 McKean Ave., Philadelphia, Pa. Experience in operation, purchase and maintenance of trucks and cars. Last with public utility company operating 400 units. Can analyze and intelligently present operating cost. Can install ideal record system for fleet. Wants to locate in Philadelphia or suburbs. Available immediately, references. Bell phone, Victor 1882.

Plimpton, R. E., 35 Fifth Ave., New York City. Desires position where nation-wide contacts can be capitalized. Extended experience in sales promotion, market investigations, surveys of bus and truck operation, in connection with leading manufacturers, operating companies, transportation periodicals and advertising agencies. Has called on commercial-vehicle users in practically every state.

A-17 (32) married. Member Society of Automotive Engineers (since 1924) and Automotive Service Association of New York (since 1925). Has fine list of contacts in Eastern territory as a result of work among manufacturers, factory branches, distributors, equipment jobbers, exporters, fleet operators and roadbuilding contractors and in electrical, agricultural and marine equipment fields. Educated at Columbia University, Brooklyn Polytechnic Institute, plus extension courses at Columbia University in Highway Transport Management, Service Fleet Management and Economics of Highway Transport, plus correspondence course covering 18 months in Marketing and Advertising Management. During past 5 years has been eastern manager for large engine manufacturer in charge of sales, sales engineering and service. Can furnish finest business, personal and social references.

A-18. Seeks position in a sales capacity, wholesale or retail. Experience is as follows: 1925-1926, White Motor Co. in Eastern Pennsylvania; 1926-1930, wholesale representative for General Motor Truck in Eastern Pennsylvania; 1930-31, assistant to commercial sales manager, Roberts Nash Co. in Philadelphia; 1931-1932, fleet representative for tire manufacturer in Philadelphia.

A-19. Desires position as salesman or sales executive with reliable company. Experience covers four years with Denby Motor Truck Co. as sales and service manager; two years with Republic Motor Truck Co. as manager of branches; three years with Federal Motor Truck Co as zone supervisor; two years with American LaFrance as branch manager. References furnished.

Control of Gas and Oil Tightens Up Costs of Laundry Fleet

(Continued from page 25)

10,000 miles would insure satisfactory compression and he established that interval as a standard.

Carburetors are adjusted in the shop and cannot be adjusted on the road by drivers because the needle valve adjustment which is included in the choke rod assembly has been rendered inoperative by sawing off part of the coupling at the lower end of the rod. This does not interfere with the use of the choke. Drivers are instructed to allow the engines to warm up for at least a minute before taking them out on routes and the route foreman sees that these instructions are obeyed.

Drivers have no part whatever in the maintenance program except to report trouble. A night man fills the truck with gasoline, oil and water and checks tire pressure as well as looking the trucks over generally. He tests brakes while maneuvering trucks in the garage. Drivers make no repairs on the road except to change tires.

"Our drivers are salesmen and we don't want them to be mechanics," said Mr. Risley. "We have a good safety record because we pick out good drivers who use judgment in driving and we pay special attention to brakes and steering gears."

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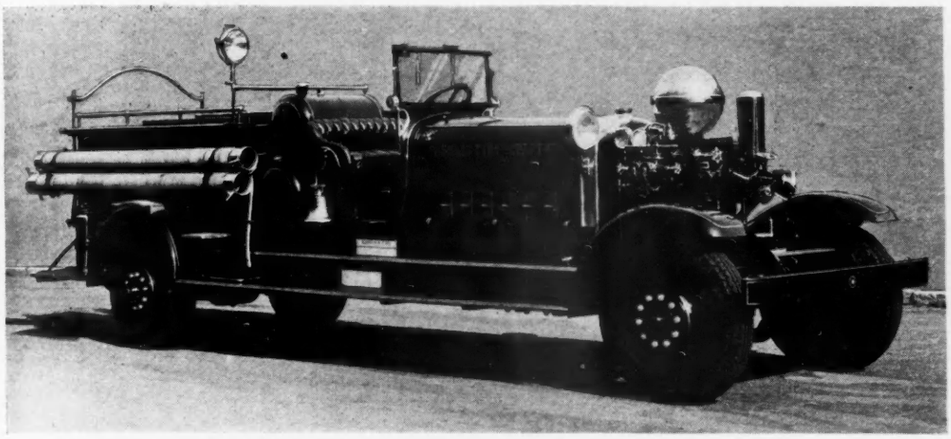

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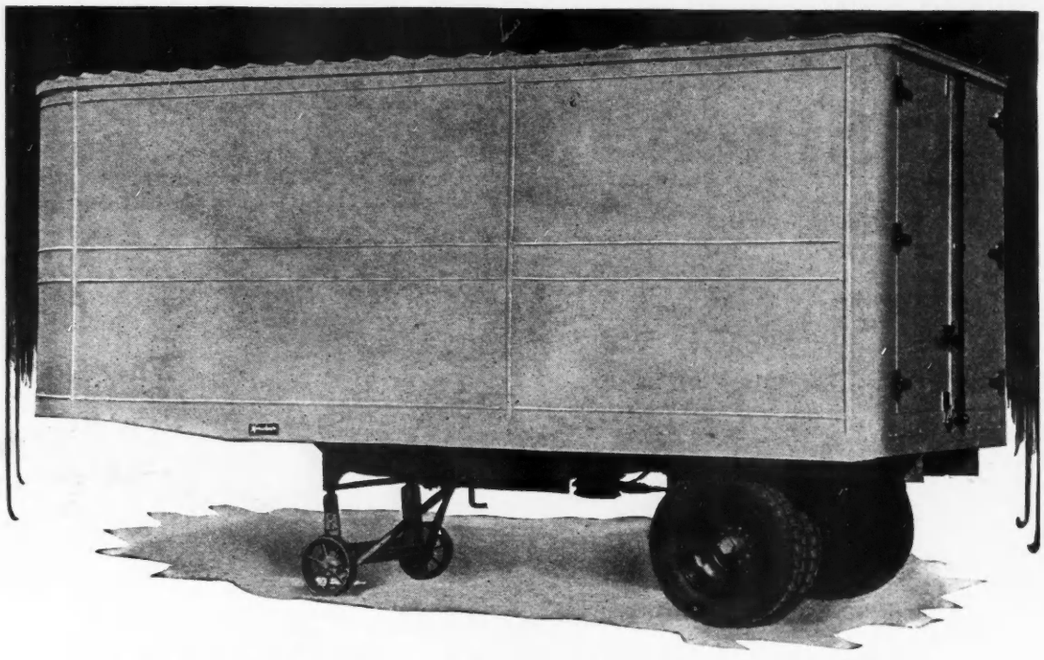

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Lansing, Michigan

Here Are the Formulas to Help You Engineer Transportation

(CONTINUED FROM PAGE 30)

sumed to be 83 per cent of maximum torque, therefore the factor for torque at governed speed equals .83 x .625 or .519. Torque in the performance factor formulas therefore equal .519 times piston displacement in cu. in. (See No. 4.)

• *Weight Distribution*

Nos. 16, 17. Formulas for distribution of payload weight recommended by the Tire & Rim Association are used generally. One gives weight on front axle, the other the weight on rear axle. Referring to the accompanying drawing, page 30, they are: Payload on front axle equals B times payload divided by wheelbase. Payload on rear axle equals A times payload divided by wheelbase.

The dimension back of cab to center of rear axle, designated CA and listed in C. C. J. Specifications Table, is important in balancing the weight of the body and payload on the chassis. For rough calculation one-half the length of the body should be less than the CA dimension. The distance which the center of the body is forward of the center of the rear axle, dimension B in the drawing, should be, according to one factory, 15 to 17 per cent of the wheelbase on four-wheelers and from 12 to 14 per cent on six-wheelers. In the latter case wheelbase is considered to extend from the front axle to the pivoting point of the tandem rear axles, frequently but not always, a point midway between.

THE use of this space is a short, practical and economical method of getting a trade market in the motor truck field.